General Introduction

Company Information

About NanaWall Systems, Inc.

Perceiving an unmet need for flexible solutions to large architectural openings, the founders of NanaWall Systems delivered their first wood-framed, opening glass wall in 1986. Three years later, NanaWall Systems, Inc. was incorporated, with the mission of creating and delivering an array of flexible design solutions. In 1996, NanaWall Systems entered into partnership with Solarlux of Germany, the world leader in operable glass wall technology. Today, with manufacturer's representatives throughout the continent, NanaWall Systems is the dominant provider of opening glass walls in North America. Together with Solarlux, over a million panels have been installed worldwide.

A Diverse and Distinguished Clientele

For over thirty years, the NanaWall opening glass walls have re-defined interior and exterior space—and the boundary between them—in thousands of commercial and residential buildings throughout the United States, Canada, Mexico, Central America, and the Caribbean. NanaWall Systems architectural customer base include esteemed names as HOK, Gensler, WATG, and SOM; projects have ranged from press-boxes and suites to award-winning residences. NanaWall opening glass walls can be found providing innovative and versatile design solutions for offices, restaurants, retail shops, 21st century classrooms, resorts, auto dealerships, religious facilities, and sports arenas.

If You Can Imagine It, You Can Create It… with NanaWall

At first glance, the NanaWall looks like a wall of floor-to-ceiling glass windows, but that's where the similarity ends. Each panel is articulated on a hidden overhead track, and the panels themselves can quickly and easily open and stack away out of sight, creating breathtaking open-air vistas. With straight or curved layouts, along with hundreds of colors, finishes, and configurations at your disposal, there are virtually no limits when it comes to designing with the NanaWall. Folding systems create opening widths of up to 43' (13106 mm), while sliding systems offer a virtually unlimited opening-size and can make the panels completely disappear from view when opened. Frames are available in aluminum, wood, aluminum-clad wood, or frameless. And to make the completion of your project even easier, NanaWall Systems maintains a complete network of independent certified factory-trained installers and service technicians throughout North America.

Precision Engineered, Built to Last

NanaWall units are designed and built to meet the most exacting fenestration industry standards for air infiltration, water penetration, structural performance, and forced entry. Many NanaWall opening glass walls have been tested for STC rating, and the SL73 NanaWall meets the stringent standards for hurricane approval established by Dade County, Florida.

Customer Satisfaction

The best testament of NanaWall Systems' integrity comes straight from satisfied customers: from the architectural clients, to the contractors, to the day-to-day end-users whose lives are improved by this unique and exciting solution. Jeff Genn, principal of Genn Construction, reports that "This twelve-foot wall system assembled and installed in about four hours. I couldn't believe it…I also think any questions about climate compatibility have been answered with this installation. As the NanaWall faces the lake, it is subject to high winds and temperatures that can reach -35° F. I've witnessed no problems with condensation or air leakage."

A Commitment to Customer Service

With unparalleled experience and expertise, NanaWall Systems has established itself as North America's leading provider of large-opening solutions. That's because the people at NanaWall Systems believe that their service is just as important as their product-as affirmed by Les Young of APG-America, after the completion of the new Philadelphia Eagles stadium: "One of the most positive decisions made was the use of the NanaWall…From the design process through the fabrication and into the installation process, the cooperation that APG received from both NanaWall and Solarlux was unprecedented…We look forward to the next venture with Nana and Solarlux. It's your imagination and feedback that keeps NanaWall Systems striving for excellence and innovation."

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Partnership with Solarlux

NanaWall Systems is the North American partner of Solarlux of Germany, the world leader in operable glass wall technology. Solarlux is the only manufacturer of framed operable glass wall systems to achieve ISO 9001 registration. ISO is the Organization for International Standardization, based in Geneva, Switzerland. The 9001 identifies the classification of Solarlux' registration, which includes meeting quality standards in design, development, production, installation, and service. NanaWall Systems' association with an ISO 9001 certified company is another indication of NanaWall's commitment to customer satisfaction.

Patents for the NanaWall product line:

US Patent #6,702,271
US Patent #6,618,994
US Patent #6,397,522
US Patent #10,683,688
US Patent #10,711,510
US Patent #10,550,625
US Patent #11,174,673
German Patent #100 48 954
German Patent #100 21 330
German Patent #100 02 214
German Patent #100 02 075
German Patent # 105 90 694
German Patent #202 03 512.3
German Patent #195 41 758
German Patent #100 02 074

Literature Requests

Please contact NanaWall Systems, Inc. for print literature.

This Architectural Design Binder

If you are an architect, this comprehensive design binder is your resource for size and configuration information, product specifications, cross-section details, frontal elevations, installation details, testing results, etc.

Please note, however, that the latest editions of new details as well as information on new products can be found at www.nanawall.com.

Technical Questions

Please feel free to contact NanaWall Systems, Inc. for technical questions. As there are many configurations and stacking options, feel free to submit your sketches for evaluation or schedule a design assistance session with our team.

How To Contact NanaWall Systems

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NanaWall.com

Visit NanaWall.com for: 3D Configurator, CAD, Revit, product specifications, animations, installation/operational videos, architectural binder, owner's manuals, blogs, and a complete line of brochures.

![NanaWall logo] **NanaWall®**
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NanaWall is a full line of precision engineered glass wall systems. Many of these systems have been independently tested for air infiltration, water penetration, structural performance, sound transmission, and forced entry. Based on your specifications, NanaWall Systems offers two main ways to create wall openings: NanaWall Folding Systems and NanaWall Single Track Sliding Systems. The following table provides a guideline for selecting the system which suits your needs best.

SYSTEM	SUPPORT	MAX. PANEL WIDTHS/ MAX. FRAME HEIGHTS	KEY PROPERTIES
GENERATION 4 FOLDING GLASS WALLS | ALUMINUM CLAD FRAMES			
NW Clad 740	Floor Supported With Upper Guide Track	3' 3" (1000 mm) x 9' 2" (2800 mm) - 3' (915 mm) x 9' 10" (3000 mm)	Aluminum on the outside, quadruple laminated cross-grained wood on the inside, high weather testing results with the NanaWall hybrid sill (inswing unit and outswing unit tested to 9 psf (450 Pa)). The advance engineering is designed for energy efficiency, strong weather performance, and durability.
GENERATION 4 FOLDING GLASS WALLS | WOOD FRAMES			
NW Wood 540	Floor Supported With Upper Guide Track	3' 3" (1000 mm) x 9' 2" (2800 mm) - 3' (915 mm) x 9' 10" (3000 mm)	Quadruple laminated cross-grained wood system, high weather testing results with the NanaWall hybrid sill (inswing and outswing units tested to 9 psf (450 Pa)). The slimmest wood frame in the folding glass industry.
NW Acoustical 545	Floor Supported With Upper Guide Track	3' 3" (1000 mm) x 9' 2" (2800 mm) - 3' (915 mm) x 9' 10" (3000 mm)	Solid, single species wood framing and specialized gasketing with sound-enhanced glass to achieve optimal performance with the range of unit STC from STC 31 up to STC 41. Qualifies for Enhanced Acoustical Performance IEQc9 (LEED for Schools) and EQc9 (LEED for Interior Design and Construction).
GENERATION 4 FOLDING GLASS WALLS | ALUMINUM FRAMES			
NW Aluminum 640	Floor Supported With Upper Guide Track	3' 3" (1000 mm) x 10' 2" (3100 mm) - 3' (915 mm) x 10' 2" (3100 mm)	Slim aluminum frame with the integration of FourFold and SixFold Panel Sets for wider opening. High weather testing results with the NanaWall hybrid sill (inswing and outswing unit tested to 9 psf (450 Pa)). Depending on the glass type selected, thermal performance value as low as ".24".
NW Acoustical 645	Floor Supported With Upper Guide Track	3' 3" (1000 mm) x 10' 2" (3100 mm) - 3' (915 mm) x 11' 6" (3500 mm)* *for UNIT STC 32 to STC 43	Acoustically separated aluminum framing and specialized gasketing with sound-enhanced glass to achieve optimal performance with range of unit STC from 32 up to STC 45. STC 45 qualifies for Enhanced Acoustical Performance IEQc9 (LEED for Schools) and EQc9 (LEED for Interior Design and Construction).
NW Reinforced 647	Floor Supported With Upper Guide Track	3' 3" (1000 mm) x 10' 2" (3100 mm) - 3' (915 mm) x 10' 2" (3100 mm)	Designed to meet structural capabilities required for taller buildings with a DP rating of +/-70 psf in accordance with (ASD) Allowable Stress Design Pressure. Independently certified and rated to meet CW-PG35.
NW Aluminum 840	Floor Supported With Upper Guide Track	3' 3" (1000 mm) x 10' 2" (3100 mm) - 3' (915 mm) x 11' 6" (3500 mm)	Slimmest and thermally efficient aluminum frame with the integration of FourFold and SixFold Panel Sets for wider opening. High weather testing results with the NanaWall hybrid sill (inswing and outswing unit tested to 9 psf (450 Pa)). NW Aluminum 840 for all panel sizes and configurations is Florida statewide approved.
NW Reinforced 847	Floor Supported With Upper Guide Track	3' 3" (1000 mm) x 10' 2" (3100 mm) - 3' (915 mm) x 11' 6" (3500 mm)	Designed to meet structural capabilities required for taller buildings with a DP rating of +/-85 psf in accordance with (ASD) Allowable Stress Design Pressure. Independently certified and rated to meet CW-PG55.

SYSTEM	SUPPORT	MAX. PANEL WIDTHS/ MAX. FRAME HEIGHTS	KEY PROPERTIES
NANAWALL FOLDING SYSTEM WITH WOOD FRAMES			
WD65	Top Hung	3' 3" (1000 mm) x 8' 8" (2750 mm) - 2' 11" (900 mm) x 10' (3050 mm)	Monumental wood system, foldflat against adjacent wall option, angle changes, and segmented curves possible. NFRC Certified, meets Energy Star values with selected glazing, STC ratings.
NANAWALL FOLDING SYSTEMS WITH ALUMINUM FRAMES			
SL60	Top Hung or Floor Mounted	3' 3" (1000 mm) x 7' 10" (2400 mm) - 2' 11" (900 mm) x 8' 6" (2600 mm)	Standard thermally broken system, high weather testing results with the NanaWall higher weather performance sill (inswing and outswing tested to 7.5 psf), residential only. NFRC Certified, meets Energy Star values with selected glazing, STC ratings.
SL45	Top Hung	3' 3" (1000 mm) x 9' 0" (2750 mm) - 2' 11" (900 mm) x 9' 6" (2900 mm)	Monumental top hung system, foldflat against adjacent wall option, angle changes, and segmented curve. STC ratings, NFRC Certified, and Florida statewide approved with Product Approval number FL37258.
SL70	Floor Mounted	3' 3" (1000 mm) x 9' 10" (3000 mm) - 2' 11" (900 mm) x 12' (3650 mm) with horizontal mullions	Monumental thermally broken system, high weather testing results with the NanaWall higher weather performance sill (inswing and outswing tested to 9 psf), high DP rating, 90° and 135° angle changes possible. NFRC Certified, meets Energy Star values with selected glazing, STC ratings.
SL73	Floor Mounted	up to 3' 2" (965 mm) x 10' (3050 mm) (for Dade County, 3' (915 mm) x 8' 2" (2500 mm))	Dade County/AAMA hurricane approved system, with impact glass, vandal resistant, NFRC Certified, meets Energy Star rated values with selected glazing. Hurricane protection that meets stringent hurricane code with low energy requirements.
NANAWALL MINIMAL SLIDING SYSTEM			
cero	Floor Supported	7' 4" (2250 mm) x 13' 1" (4000 mm) 9' 10" (3000 mm) x 14' 9" (4500 mm)	A full floor-to-ceiling sliding glass panels with recessed top and bottom track. cero is available in two options depending on thermal performance needs-triple glazed cero III and double glazed cero II. cero II is acoustically tested. cero is tested to 40,000 opening and closing cycles.

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SYSTEM	SUPPORT	MAX. PANEL WIDTHS/ MAX. FRAME HEIGHTS	KEY PROPERTIES
NANAWALL SINGLE TRACK SLIDING SYSTEM WITH WOOD FRAMES			
HSW66	Top Hung	up to 4' (1220 mm) x 10' (3050 mm)	Wood system, angle changes, and segmented curves possible, unlimited range of stacking options, a swing door can be hinged off a side jamb. NFRC Certified, meets Energy Star values with selected glazing.
	Top Hung	up to 5' (1525 mm) x 10' (3050 mm)	**BeyondLiftSlide**, ideal for pocket solutions, a swing door can be hinged off a side jamb. NFRC Certified, meets Energy Star values with selected glazing.
	Top Hung	up to 4' (1220 mm) x 10' (3050 mm) for sliding panels up to 3' 3" (1000 mm) x 10' (3050 mm) for swing panels	**SwingSlide** is a single track slider with center swing doors. NFRC Certified, meets Energy Star values with selected glazing.
NANAWALL SINGLE TRACK SLIDING SYSTEM WITH ALUMINUM FRAMES			
HSW60	Top Hung	up to 4' (1220 mm) x 12' (3660 mm)	Thermally broken aluminum system, incorporated swing doors possible, angle changes and segmented curves possible, unlimited range of stacking options, good weather and structural testing results. NFRC Certified, meets Energy Star values with selected glazing, STC ratings.
	Top Hung	up to 5' (1525 mm) x 10' (3050 mm)	**BeyondLiftSlide**, ideal for pocket solutions, a swing door can be hinged off a side jamb. NFRC Certified, meets Energy Star values with selected glazing, STC ratings.
NANAWALL ALL GLASS OPENING WINDOW WALL - Suitable for interior / exterior space but limited weather resistance (except ClimaCLEAR) and limited thermal resistance.			
HSW75	Top Hung	up to 4' 1" (1250 mm) x 10' 6" (3200 mm)	Single Track Sliding System. No vertical frames for uninterrupted views, single/double action end panels, single action sliding panel, angle changes, segmented curves, unlimited range of stacking options and parking bays, suitable for commercial uses. A patented release system to convert sliding panel to swing panel and vice versa.
PrivaSEE™	Top Hung	up to 4' 1" (1250 mm) x 10' 6" (3200 mm)	Single Track Sliding System for Acoustical Separation. No vertical frames. Independently tested and rated to unit STC of 36 and OITC of 30. Control sound transparently. Single action end panel has passed 500,000 cycle testing.
ClimaCLEAR™	Top Hung	up to 4' 1" (1250 mm) x 10' 6" (3200 mm)	Single Track Sliding System, no vertical frames. Good weather testing results. Weather seals are independently tested and rated for 75% clarity and luminosity.
FSW75	Top Hung	up to 3' 7" (1100 mm) x 10' 6" (3200 mm)	Folding Panel System. No vertical frames for uninterrupted views. Unlimited width with a chain of folding panels possible.
CSW75	Top Hung	up to 3' 7" (1100 mm) x 10' 6" (3200 mm)	Center Pivot System. No vertical frames for uninterrupted views. No floor track. Unlimited width with a chain of folding panels possible.

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The NanaWall Concept

NanaWall Systems Inc. is the North American leader in providing solutions for large opening glass walls. We offer a full line of all glass, aluminum, clad, and wood framed Opening Glass Wall Systems for large openings. As an architecturally driven company, NanaWall Systems specializes in providing aesthetic, engineered solutions for almost any conceivable large exterior or interior opening problem.

Glass is a crucial component of modern architecture. With NanaWall Folding, Minimal Sliding, and Single Track Sliding Glass Door Systems, this element becomes dynamic. Whether residential or commercial, exterior or interior use, straight walls or with angle changes, NanaWall creates large wall openings that blend the divisions between the spaces.

NanaWall provides a unique solution for any opening wall situation. At NanaWall Systems we believe that if you can imagine it, we can probably create it. Consequently, the design options we offer are almost limitless.

NanaWall Systems offer three main ways to create large wall openings: Folding, Single Track Sliding, and Minimal Sliding Systems. Our glass wall systems come with aluminum, wood or aluminum clad frames or with no vertical frames, in hundreds of colors, configurations, and finishes. NanaWall is a full line of precision engineered systems in which many of the systems have been independently tested for air infiltration, water penetration, structural performance, forced entry, and acoustic performance. Dade County/AAMA/FL hurricane approved systems are also available.

NanaWall Folding Systems consist of panels connected together in a train. The panels can be hinged off either one or both side jambs and meet in a number of ways like SixFold and FourFold panel sets..
With an odd number of panels on one side, a swing door is possible. With an odd number of panels on both sides, a pair of swing panels is created. Further options include inswing or outswing and center pivot panels. The total number of panels in your wall opening depends on your design and the combination of panel height, width, and glazing. Normally the maximum number of folding panels in an opening is twelve, with a maximum of six panels hinged together. In some of the systems, more panels are possible with additional paired panels. In the FoldFlat option, panels can fold flat against the adjacent wall instead of stacking at 90° in the opening.

With NanaWall Single Track Sliding Systems the maximum number of panels is virtually unlimited, restricted only by structural steel constraints. And even if there are structural posts, tracks can be laid to the inside or outside of the posts to allow sliding beyond the posts. As opposed to traditional sliding doors, panels on NanaWall Single Track Sliding Systems are all on a single track and single plane. Each panel is supported by two carriers and is moved independently into place. When open, the panels can be stored outside the plane of the opening, creating literally a disappearing wall. . Some systems allow for incorporated swing doors (also called single/double action sliding panels) which easily convert from sliding into swing panels.

cero by NanaWall is the Minimal Sliding System that offers full floor to ceiling large glass panels. Constructed with slim frames measuring only 1 5/16" (34 mm), cero provides uninterrupted expanses of glass and line of sight.

In the past thirty five years, NanaWall Systems have been installed in thousands of commercial and residential buildings throughout the United States, Canada, Mexico, the Caribbean, and Central America (a vast selection of project photos can be viewed in our Inspiration Gallery on www.nanawall.com).

The Product Overview on pages 5 - 7 provides a guideline for selecting the system which suits your needs best. For immediate assistance, contact our customer service team at (800) 873-5673 or (866) 208-5745. Our team of field representatives are also ready to assist you locally throughout your project.

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Benefits of a NanaWall

NanaWall Systems provide the flexibility to fully open, partially open, or completely close a glass wall as desired. Tear down the walls that confine you and replace them with NanaWall Systems.

Sometimes You Want a Fully Open Wall

- To Enhance Your Views. In good weather, enjoy your view through an open wall. In fact, the entire NanaWall —or any portion of it—can be easily opened and slid to the side, opening your space to the vistas beyond.

- To Enjoy Natural Lighting. In good weather, enjoy your space with natural lighting.

- To Expand Your Space. A recent trend has recreated the patio and backyard into living environments that are fully integrated into the rest of the house. The modern concept of outdoor rooms - kitchens and entertaining areas - is vital. The more convenient the connection between indoor and outdoor living areas, the more value is added to both spaces.

- To quickly flush out VOC (Volatile Organic Compound) and Carbon Dioxide and bring in fresh air.

- In sidewalk restaurants and shops, open complete walls to outdoor space add valuable square footage for seating and display. Hidden floor tracks offer seamless transition from one side to the other.

- In interior applications, open walls create larger rooms when needed.

- To Create Large, Inviting Entrances. Enhance your marketing efforts with storefronts that disappear, inviting customers to step inside and indulge.

- Especially for a business that depends on sensory appeal, removing barriers between customers and merchandise increases sales by promoting impulse buying.

- Use ambience and aromas to attract customers into the restaurant. Encourage potential customers to come in.

- To Control Inside Climate. Space can become so much more appealing when opened to fresh air.

Sometimes You Want a Partially Open Wall

- For Complete Flexibility. With a NanaWall, open as much or as little of the wall as needed. Operable egress doors can be part of the NanaWall.

Sometimes You Want a Completely Closed Wall

- In Inclement Weather. Enjoy the best of both worlds: a room that blurs the line between indoors and outdoors and the peace of mind that comes from the weather resistant NanaWall.

- Various independent tests show that many NanaWall systems more than meet fenestration industry standards for weather resistance and structural integrity. Miami-Dade County/AAMA hurricane-approved systems are also available. The European styling and the handsome sleek lines of the frames optimize glass areas for maximum views and natural lighting.

- For Security Reasons. When needed, an outdoor area can be easily enclosed for security reasons. With multiple point locking that operate with the turn of a handle, independent tests confirm that the NanaWall locking system passes the strict California forced entry requirements as well as European standards.

- For Acoustical Separation Without Visual Barriers. In restaurant and office interiors, flexible room dividers create smart spaces. Depending on the system and type of glazing, independent testing confirm that many NanaWall systems can provide significant sound reduction when needed.

- For Dust Control. Reduce time and energy spend on dusting of furniture and merchandise. The weather-resistant framed NanaWall systems reduces dust infiltration from the sweeping of common areas.

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Applications

NanaWall Systems is the recognized industry leader trusted by architects, design professionals, and homeowners alike to provide opening glass wall systems with countless style options, unsurpassed durability, and superior performance - all based on a foundation of testing, research, and innovation.

Single Family Residential

The NanaWall operable glass wall offers countless options for wide-open space, flexible interior areas, and secure weather protection. NanaWall's glass panels glide effortlessly on precision engineered hardware to create large inviting opening that seamlessly integrate indoor and outdoor spaces yet close securely to form a rattle, and with framed systems, draft free barrier from inclement weather.

- Match decor with over 20 different systems to choose from - in solid wood, wood with aluminum cladding, all aluminum or frameless.

- Customize the system to suit the style of the home with choices of wood, aluminum color finish (50 Standard or custom), glazing, divided lites, mullions, and inward or outward opening.

- Increase property value by choosing the leader in operable glass walls. A NanaWall system is known for long-term durability and performance when open but most importantly when closed. Notably when closed, most of the systems have superior protection from water and air infiltration, and provide sound attenuation and energy efficiency.

Multifamily Residential

NanaWall Systems provides architects, building owners, property manager, homeowner associations, and contractors with a solution for increasing usable space, enhancing the building's value, and improving overall energy efficiency.

- Differentiate the property from others on the market by creating a greater sense of space by using NanaWall operable glass walls on porches and balconies.

- Capitalize on unobstructed views and bring the outdoors in on properties with Juliette balconies.

- Create double-skinned, energy efficient, four season outdoor rooms out of the smaller spaces found within multi-family residential properties.

For High / Mid Rise applications, the FSW75, CSW75, or HSW75 balcony glazing system additionally provides building preservation and a reduction in maintenance issues.

- Command higher rents in rental buildings by increasing the usable square footage by enclosing the balcony area.

- Increases curb appeal by creating a modern, energy efficient facade that capitalizes on passive solar warmth along with cross-ventilation and while reducing urban noise pollution within each unit.

- Create additional sense of safety and security for occupants on higher floors with children or pets.

Restaurants

Opening the restaurant entrance makes the entire street front a welcoming door. Passersby easily see the food and immediately enjoy the restaurant's ambience and entertainment. A NanaWall system provides additional seating space when open and comfort, security, and energy efficient weather protection when closed—without sacrificing open views.

- Increase seating capacity and boost revenue without a costly building expansion by opening NanaWall operable glass walls onto the street, patio, or balcony.

- Facilitate free-flowing customer traffic by replacing the physical barrier between the street and the restaurant.

- Create comfortable and attractive four season outdoor dining by enclosing a covered patio with energy efficient, NFRC Certified NanaWall operable glass walls.

- Manage space and book lucrative private events with flexible banquet areas enclosed or expanded with a sound suppressing NanaWall system.

- Add egress doors with panic hardware and door closers on select NanaWall systems for use when the opening is closed.

Hotels

A NanaWall operable glass wall enables the hotelier to create large inviting entrances in the lobby area and throughout the hotel, ensuring a memorable first and lasting impression.

- Separate a breakfast area from the hotel public space after service has concluded.

- Incorporate fresh air, beautiful views, and hotel landscaping into the registration, dining, and guest room areas.

- Eliminate the barrier between the entrance and the lobby to allow a free flow of customer traffic. Passersby connect with the hotel's ambience, and entertainment.

- Quickly create private banquet rooms that transmit light and significantly reduce sound transmission.

- Create more bookable event space by dividing or opening up large areas as needed. Entrance/egress panels facilitate service.

- Use NanaWall operable glass walls as interior divisions, allowing management to quickly incorporate or close retail space, restaurants, and meeting rooms.

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Retail

The storefront is the first line of branding that reflects a company's unique image. An open storefront eliminates barriers and draws in customers. A NanaWall operable glass wall creates a wide, seamless transition between street and store—bringing the shop to the shopper before they ever cross the threshold.

- Immediately engage customers with product and personnel through wide-open NanaWall operable glass walls.

- Implement existing strategies applied to interior mall storefronts in exterior or strip mall applications by opening up the entrance with the use of a secure, weather resistant NanaWall operable glass wall.

- Use a NanaWall system for indoor mall storefronts that seal tight as a protective dust-control measure for after-hours.

- Expand display areas by utilizing street fronts, sidewalks, and mall walkways to display movable racks and bins that roll easily through the spacious opening.

- Increase sales by eliminating psychological as well as physical barriers. Shoppers attracted to colorful displays are readily drawn deep into the store.

- Differentiate your company from the competition and extend your visual branding out to the street.

- Leave the lights on after-hours for extra security and allow tomorrow's buyers to view enticing merchandise as they stroll or drive by.

- Add commercial swing doors to the HSW60 sliding system to create a typical storefront with the unique ability to slide and stack the panels in any convenient location. Swing panels can also be incorporated into specific NanaWall folding systems for the same effect.

Create Entrances and Storefronts that Slide Away

The NanaWall aluminum framed thermally broken Single Track Sliding System HSW60 introduces a new concept in entrances and retail storefronts. The HSW60 offers standard storefront features such as paired swing doors with weather and forced entry resistance; however, it has the unique ability for the panels (including the entrance door panels) to effortlessly slide out-of-sight.

Entrance door panels can be located nearly anywhere in the chain of doors and disappear along with the rest of the panels when stored.

- Entrance door panels open either inward or outward

- Door closers and panic devices by others may be added to the entrance door panels. ADA compliant entrances are possible (subject to local codes).

- Commercial swing panels are tested for 500,000 cycles and meet industry operational standards (AAMA 920).

Auto Showrooms

Car dealers sell dreams. A NanaWall operable glass wall removes the physical and psychological barriers between clients and dream vehicles. Seamlessly transition the display lot and showroom floor, creating a buying atmosphere of comfort and ease.

- Create attractive entrances that draw buyers in. A NanaWall system gives you the option for wide-open space when the walls are open and secure energy efficient weather protection when closed.

- Remove barriers between customer, product, and potential sales with operable storefronts and clear glass office walls. Keep the dream in view as your client signs on the dotted line.

- Slide the NanaWall entrance wide-open and create an unforgettable experience by allowing the new car owner to drive right off the showroom floor.

- Rotate inventory displays with easy access to the lot through a wide NanaWall service entrance.

- Provide flexibility of inventory layout and display within the multi-brand dealership.

- Use multiple wall systems to create open options as well as divisions within the showroom, service bays, and offices.

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Supermarkets

NanaWall operable glass walls create an open-air storefront as well as expands opportunities for independent products and services within the walls of a large-scale supermarket while maintaining a comfortable, village market ambience.

- Create "Store within a Store" for a pharmacy, bank, florist, dry cleaner, deli, or coffee vendor with a NanaWall operable glass wall. Allow full access during business hours and close when operating hours differ from the main store.

- Attract new customers and promote new products by carving out a kitchen classroom for cooking classes and food product demonstrations.

- Take full advantage of foot traffic on sunny days with an attractive, wide-open "farmer's market" entry showing floral and produce displays at the street.

Banks

The new architecture of banking and finance is open, light, and transparent. A NanaWall operable glass wall delivers these attributes and adds the dimension of flexible space without sacrificing security and energy efficiency.

- Allow the ATM lobby to be open to the bank during operating hours and securely segregated for convenient client access after-hours.

- Provide a seamless transition from the ATM to the bank floor to facilitate a friendly interaction between the client and bank personnel and enhance customer exposure to promotions and services.

- Create instant and flexible meeting space or office divisions without constricting the perceived space.

- Quiet please! A NanaWall system provides excellent sound suppression. Translucent glass treatments are available for privacy.

Offices

NanaWall operable glass walls in office floor plans promote flexible use of space and fosters co-worker collaboration. Conference and multi-use areas can be easily created or consolidated based on changing activities and floor space requirements.

- Enable employees to quickly incorporate or close conference space, groups of desks, or create event/meeting space on-the-fly.

- Allow light to pass through and minimize the impression of a smaller space by either using obscure or clear glass.

- Customizable configurations, materials, glazing, as well as swing door features, and different track options allow for flexible floor plan design.

- Provides privacy and a quiet work environment—a NanaWall system has excellent sound-dampening and acoustical qualities.

Recreation / Entertainment

Recreation and entertainment facilities accommodate large amounts of people—but they also need to be welcoming. A NanaWall operable glass wall system draws in visitors with a wide, seamless transition between outside and in.

- Increase seating capacity and boost revenue without a costly building expansion by opening NanaWall operable glass walls onto the street, patio, or balcony.

- Create attractive free-flowing event spaces by removing the barrier between the facility and the outdoors.

- Configure private banquet rooms that transmit light and significantly reduce sound transmission.

- Quickly modify dining areas, bars, meeting rooms, training, and athletic facilities to meet specific event requirements.

- Adapt spaces on-the-fly to a surprise shower or gusty winds when even the largest operable glass panels can be quickly and easily closed by any staff member.

Sports Venues

Installed at over 100 stadiums throughout North America, NanaWall Systems is the experienced leader in providing solutions for stadium projects. Over the past few years, NanaWall Systems has been part of more national winning sport teams. NanaWall's innovative operable glass walls bring the fan base together and provide unique event experiences.

- NanaWall Systems provides extensive "Concept to Completion" evaluations for each sports venue project.

- An experienced Dedicated Design Team is available to determine the right configuration and assist in design objectives.

- NanaWall Systems can accommodate specialized design challenges and is well versed in aspects of sports venue design and construction.

- NanaWall Systems' innovative operable glass walls create exclusive and unique suite facades, suite space divisions, restaurant entrances, and attractive fan areas while expanding the usability of these areas far beyond game day.

- A NanaWall system is easy to use, allowing the occupants the choice to have the suite open or closed to the arena.

- When open, the fan experiences the action and crowd but when closed, the NanaWall system provides an oasis of calm even during the loudest of events.

- In the off-season, the weather resistant NanaWall systems protect interior spaces and furnishings from exposure and/or unauthorized entry.

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Education

NanaWall Systems facilitates creative freedom and flexibility for architects and designers working on educational projects, while enhancing the learning environment for both students and teachers. NanaWall systems are appearing in more 21st school projects, including classrooms, libraries, gyms, cafeterias, performance halls, student centers, and stadiums.

- Customizable configurations, materials, glazing, as well as swing door features and different track options allow the designer to create the exact, design-specific, NanaWall operable glass wall system needed for the project.

- NanaWall systems create transitional and multifunctional spaces between classrooms, auditoriums, communal hallways, and gathering areas.

- Within the classroom, the flexibility created by a NanaWall system allows teachers to gain access to shared resources and adapt space for small or large groups.

- Teaching staff can use the NanaWall system to either combine classroom activities, or divide students for specific activities while also allowing for good visibility and acoustic separation.

Religious Institutions

A religious facility is not simply a structure with a single purpose. Depending on desires of the congregation and community, the facility may include a sacred space intended to bring about tranquility, calm, or a dynamic space complete with concert halls, gymnasiums, classrooms, and offices. A NanaWall system provides the solution to these ever-changing needs.

- Adjoin or separate areas for simultaneous activities with the use of a NanaWall system.

- Maximize limited floor space by creating transitional and multi-functional spaces.

- Reduce noise between interior spaces while still allowing supervision and access to the divided area.

- Allow light to pass through and minimize the impression of a smaller space in the divided area.

- Easily adapt indoor-outdoor spaces that can be quickly opened or closed by any staff member.

- Create separate areas for nursery schools or after school programs.

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Health Care / Assisted Living

NanaWall operable glass walls in health care environments brings the health benefits of openness, natural daylighting, and ventilation. At the same time, a NanaWall system also provides practical benefits such space management and sound attenuation.

- Facilitate free-flowing patient traffic into and out of the facility.

- Increase visibility between care providers and their patients.

- Allows building management to quickly incorporate or close space in examination rooms, outpatient waiting areas, restaurants, and meeting rooms.

- Extends living spaces and takes advantage of the surrounding landscape and climate which translates into a greater sense of well being for the residents.

- Stimulate activity and human interaction amongst residents by creating a multi-functional space that is one minute an art room or event space and a café the next.

![NanaWall Boundaries Unbound logo]

Product Selection

General

NanaWall provides solutions for almost any conceivable wall opening application. For more ideas, visit www.nanawall.com and click on "Product Finder".

Custom Sizes. Any custom size is possible. The maximum number of glass panels in an opening is dependent on width, height, and weight of glazing as well as windloads to be expected in your situation. Please see the binder section for each system for Maximum Size Charts.

Complete, Pre-Fitted Systems. NanaWall Systems are precision built and come with pre-fitted hardware. They will be delivered ready for final assembly to your construction site. Factory-trained certified installers are available for a professional assembly.

Elegant Appearance. The European styling and handsome, sleek lines of the frames allow glass areas to be maximized. All folding, sliding, and locking hardware is integrated into the profiles for a clean, harmonious look.

Long-Term Reliability. Smooth sliding and folding operation is possible even when the bottom track has some dirt and sand in it. This is achieved through state-of-the-art hardware with ball-bearing running carriages. On top hung NanaWall Folding Systems, the main weight is carried by the head track. On floor mounted Folding Systems, the lower carriage rides on top of the sill track and the weight is carried by the lower running carriage. On NanaWall Single Track Sliding Systems, a two carrier suspension system allows each panel to be easily slid and aligned. With uniquely engineered compensation and adjustment features, NanaWall offers long-term ease of operation.

Frame Material and Glazing

Frame Materials. With NanaWall you can choose from five different frame materials. Color charts and wood finishes are available upon request.

Extruded Aluminum. Hundreds of anodized, standard powder coated, matte powder coated finishes, and DB colors are available. For most systems, different finishes on the inside and outside are possible. PVDF Kynar is available for the SL45, SL70, and SL73.

a) Standard Aluminum:
   SL45 incorporate standard aluminum frames.

b) Thermally Broken Aluminum:
   NW Aluminum 640, NW Acoustical 645, NW Reinforced 647, NW Aluminum 840, NW Reinforced 847, SL60, SL70, SL73, HSW60, and cero® by NanaWall offer a superior thermal break.
   They incorporate a polyamide reinforced with glass fibers that provides excellent humidity control, acoustics, energy savings, and strength.

Wood. NW Wood 540, NW Acoustical 545, WD65, and HSW66 are offered in a wide choice of cross-grained solid, quadruple and triple laminated wood frames. Pine, Meranti, Sapeli Mahogany, Western Hemlock, Oak and other selected wood come with solid frame, kiln dried and with matching solid glazing stops. NanaWall Systems with wood frames have either a sanding sealer or a base coat applied. No veneers are used. All wood options are sustainably harvested to meet the international standards of PEFC.

Aluminum Clad over Wood. Maintenance-free extruded aluminum cladding with a selection of over 200 color choices on the outside and the warmth of Pine, Meranti, Sapeli Mahogany, Western Hemlock, Oak or other selected woods on the inside make the NW Clad 740 the perfect system for the luxury home market. The wood interior has one additional coat applied. No veneers are used.

No Vertical Frames. HSW75, PrivaSEE™, ClimaCLEAR™, CSW75, and FSW75 have no vertical frames for unbroken views. The HSW75 is ideal as a windbreak and offers climate control for balconies and porches with an overhang. HSW75, CSW75, and FSW75 are ideal for commercial applications such as storefronts, stadiums, and offices, mainly interior applications. For the horizontal frames hundreds of anodized, standard powder coated, and matte powder coated finishes are available. PrivaSEE™ allows the control of sound transparently. ClimaCLEAR™ provides an exterior weather resistant system but with limited thermal resistance.

Glazing and Divided Lites. With the NanaWall, most commercially available glazing can be used. Standard factory installed glazing for framed systems is tempered insulated glass. Among many other types, double or triple Low-E insulated glass, other high performing glass such as Heat Mirror, special tint, etc., single tempered or laminated glazing are available as options. A large selection of muntin layouts with simulated divided lites is possible. With horizontal mullions, inserts, high bottom rails, and custom frosted/designed glass; your design options are next to limitless. Please submit your ideas to NanaWall Systems.

Test Performance and Sill Options

Many NanaWall Systems have been independently tested for air infiltration, water penetration, structural performance, acoustics, and forced entry.

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The results are outstanding. Many NanaWall systems that can be used as Room Dividers were tested for sound performance. For detailed test results, please see the performance charts of each of our systems, or contact us at NanaWall.

With NanaWall Folding Systems, Single Track Sliding Systems, and Minimal Sliding System, nine basic sill options are available:

Hybrid Sill for the Generation 4 Folding systems provides the best performance results in air infiltration, water penetration, structural load, and U-value.

The NanaWall Standard Sill is ideal for SL45 and WD65 allow smooth opening on the unit.

The NanaWall Flush Sill can be used with NanaWall Single Track Sliding, Minimal Sliding, and Folding Systems. It meets most ADA requirements with an insert and can be used in applications not exposed to wind driven rain, such as malls or storefronts with an overhang or in interior applications.

For NanaWall Folding and Minimal Sliding System; The NanaWall Higher Weather Performance Sill (Raised) can achieve some of the best water penetration test results in the industry: For instance, cero® was tested with no leakage at 12 psf.

The NanaWall Low Profile Saddle Sill is the best of both worlds: It meets most ADA requirements and was tested for no water leakage at 5.43 to 7.5 psf, depending on the system, use of UniverSILL®, and properly drained weep holes by others. It can be used with NanaWall Folding, Minimal Sliding, and Single Track Sliding Systems.

The Low Profile Raised Sill is available for the Generation 4 Folding System. The sill is tested for 9 psf water penetration rating.

The Minimal Surface Mounted Sill is designed specifically for interior application. It is ADA compliant and when installed with finished floooring, has 15/16" (23.5 mm) visible grove.

The Surface Mounted Interior Sill can be recessed into a structural slab in interior applications. The sill is designed specifically for interior acoustical systems, with adjustable flanges and insert for ADA compliance.

No Floor Track/Sockets used by single track sliding systems to create a seamless transition between two spaces and eliminate the need for a sill completely.

Weather Resistance. The most weather resistant systems tested are the NW Aluminum 840, NW Reinforced 847, NW Aluminum 640, NW Reinforced 647, NW Wood 540, NW Clad 740, SL70, SL73, and inward opening SL60; which are all tested to 9 psf.

Other systems tested with Higher weather performance sills in a range from 7.5 psf to 9 psf are adequate for residential applications. See "Performance Results" under Download Design and Technical Resources or Technical Documents Section for each system. The level of performance needed depends on specific location and site conditions.

Apart from the sill, weather resistance is dependent on the system, the opening direction of the panels (inswing or outswing), and the configuration. Many NanaWall Systems have been tested with Hybrid Sill, Low Profile Saddle Sill, Raised Sills (higher weather performance sills) or sills with weep hole by others.

Structural Performance. Depending on several factors, including the basic wind speed region and the height of the building, it is often necessary to meet given positive and negative design wind loads. These numbers are normally calculated and provided by the structural engineer on the job.

Most of the NanaWall Systems have been tested for structural performance. Under Download Design and Technical Resources Section of most systems, you will find a design wind load chart. Values are dependent on the height and width of a panel within a unit.

For a given sized panel, NW Reinforced 647 and NW Reinforced 847 are the strongest systems, followed by NW Aluminum 640, NW Aluminum 840, cero, SL70, SL73, SL60, and HSW60. Note that for the SL70 and SL73 inward opening systems, the negative direction is even stronger than the positive. For wood systems, the NW Wood 540 , NW Clad 740, and the HSW66 have the highest values. See "Performance Results" under Download Design and Technical Resources or Technical Documents Section for each system.

Given a design wind load and an opening dimension, by looking at the design wind load chart, the maximum panel width and the minimum number of panels needed for the opening can be determined.

Thermal Performance. Since wood is a natural insulator, all wood systems, have low energy loss values. The thermally broken aluminum systems, Generation 4 Folding Glass Walls and SL60, SL70, SL73, and HSW60 that use a fiber glass reinforced polyamide as a thermal break, also have low energy loss values.

Many insulated, high performance glazing options are also available. See "Performance Results" under Download Design and Technical Resources or Technical Documents Section for each system.

Sound Transmission. Some of our NanaWall Systems have been tested for sound performance.

In all cases the sound transmission loss (STC) equaled the sound reduction index (Rw).

- NW Acoustical 645 with surface mounted flush sill achieved unit STC (Rw) 45 and OITC 37 with STC 48 laminated glass with head track recessed.

- The NW Acoustical 545 with surface mounted flush sill achieved unit STC (Rw) 42 and OITC 37 with STC 48 laminated glass and head track recessed.

- cero II sliding system with a flush saddle hybrid sill achieved unit STC (Rw) 43 with STC 50 laminated glass.

- The SL70 system with the raised sill and insulated tempered glass achieved an STC (and Rw) rating of 33. The same system tested for an unit STC of 43 and OITC of 35 with STC 48 laminated glass.

- The SL60 with the raised sill achieved unit STC and Rw value of 36 with STC 38 laminated glass.

- The SL45 achieved unit STC (Rw) of 35 and OITC 30 with STC 37 laminated glass.

- With the head track recessed the HSW60 achieved a unit STC of 43 and an STC of 41 with the head track exposed with STC 46 laminated glass.

- The WD65 with STC 38 laminated glass was tested for an unit STC and Rw value of 36.

- PrivaSEE™ with STC 40 sound enhanced laminated glass was tested for unit STC and Rw value of 36.

These numbers show that sound performance of a NanaWall depends significantly on the glazing chosen. In interior applications, NanaWall serves well as see-through sound barriers. In general, the same qualities that make our systems weather resistant help in the reduction of sound transmission.

Life Cycle Performance

SL45 and the Generation 4 Folding Glass Walls meet the AAMA 920 requirement, where the system with a swing panel attached to side jamb is tested for 500,000 cycles of opening and closing and is still functional. The Generation 4 Folding Glass Walls along with SL60 and SL70, meet the German "DIN EN 1191/12400 Classification," where a unit is tested and functional after 20,000 cycles.

Residential or Commercial

Whether residential or commercial, each NanaWall is the unique answer to your specific opening situation and is custom designed to fit your needs.

The NW Clad 740, the aluminum extrusion cladding over wood folding system in combination with the hybrid or low profile saddle sill is a popular seller for residential

applications. For those, who prefer an all-wood opening wall in their homes, the NW Wood 540 is a good solution. It can be varied with traditional stiles and rails to offer the more traditional look. When a solution is sought where all panels vanish into a wall pocket when the wall is opened, the NanaWall HSW series is the right choice. Among the NanaWall Folding Systems with aluminum frames, the, NW Aluminum 640 and NW Aluminum 840 with slim side lines, provide maximum views.

For commercial applications, the main considerations are often the ability to meet accessibility requirements and to serve heavy traffic usage. The NanaWall Flush Sill, the Low Profile Saddle Sill, Low Profile Saddle Sill with UniverSILL®, and the Surface Mounted Interior Sill meet most ADA requirements.

ADA Requirements. Considerations for using a NanaWall as a primary entry panel for physical accessibility.

1. Meeting requirement of 32" unobstructed access when the primary swing panel is open. Use of any unit with 36-38" panels meets this requirement. If necessary, the swing panel can usually be made wider than other panels in a unit.

2. Meeting requirement of handle being located between 30" and 44" off the floor. All handles of our NanaWall Systems are located between these heights from the bottom of the door panel unless specified otherwise.

3. Meeting requirement of 10" uninterrupted surface of bottom rail. Standard bottom rails do not meet this requirement but kickplates of any required height are available as a special order.

4. Meeting requirement that the threshold be no higher than 1/2". Use of the Flush Sill, Low Profile Saddle Sill or Surface Mounted Interior Sill meet this requirement for all systems (as long as the flanges are not bent down).

5. The channel in the sills of folding systems, which has a width greater than 9/16" and a depth greater than 7/8" can be an issue in certain jurisdictions. As the lower guide never rolls in the portion of the track in front of any swing panel(s), (except for units with unhinged pairs of panels) this gap can be permanently filled with a hard rubber gasket that is provided by NanaWall. If needed, for the rest of the lower track the same hard rubber gasket can be used when the panels are open. The sills of most HSW systems do not have a channel or groove.

6. Meeting the requirement of the handle of the main access/swing door being operable by a single push, pull or downward motion. Such hardware with one point locking is available (has limited structural loading and is not suitable

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for panels over 8' tall.) For most systems once unlocked using the locking option with lever handles, the handle is operated by one downward motion. Please note that in certain jurisdictions, the thumbturn or key also may need to be opened as part of the one motion. Push/pull handles on certain systems and configurations could also be used.

7. Meeting the requirement that the maximum push or pull effort on the door shall not exceed 5 lbs. pressure. The pressure on the swing door when there is no door closer is less than 5 lbs. A door closer with pressure of less than 5 lbs. can be installed on most swing panels that are attached to a side jamb or on an incorporated swing panel.

8. Meeting the requirement that the maximum force to depress handles on swing panels shall not exceed 5 lbs. pressure. One point locking hardware with lever handles can also meet this requirement (has limited structural loading and is not suitable for panels over 8' tall.)

Exit Requirements. Below are some considerations if the primary entry panel of the NanaWall is used as an exit/entry door when the rest of the panels are closed:

1. Meeting exit requirement that exit doors must swing outward. Use of any outward opening unit meets this requirement. In certain configurations of SL45 and WD65 systems it is possible to have some panels swing or fold in and some panels swing or fold out in the same unit. For the HSW60, the incorporated swing door can be outward opening and the panels can stack to the inside.

2. Meeting requirement that exit doors must be 3' wide. Use of any unit that uses 3' wide door panels meets this requirement. One would need to check the clear opening width when the panel is opened 90º. It is possible to have a unit in which the primary entry panel is 3' wide and the other panels are narrower.

3. Meeting the requirement that exit doors must have panic hardware. To allow for the use of some types of panic hardware, the unit can be ordered with a blank primary entry panel(s) that is prepared without any cuts or mortises. Appropriate panic hardware will have to be provided from other sources and installed on site. Any appropriate door closer can be installed on the primary entry panel only where the primary panel is hinged to a side jamb. For folding systems, if a closer is for a swing panel that is not attached to a side jamb, the door closer will have to be disengaged when folding the panels. For HSW60 and HSW75 incorporated swing doors, the door closer slides away with the panel.

4. Meeting the requirement of certain jurisdictions' need of lever handles with a return on swing panels. Special handles can be offered.

Health Code Requirements. In certain municipalities, for restaurants and cafes, provisions must be made to prevent flying insects. NanaWall recommends Wizard's Horizon Retractable Screen and Genius - ZigZag Pleated or Sheer Screen Classic.

Function: Folding, Single Track Sliding or Minimal Sliding

NanaWall offers three main ways to create large openings. Each system is designed to solve specific opening problems and is designed to fill a particular need. The main difference between is that, Folding Systems consist of panels hinged together in a train. When open, the panels remain 90º to the track (except for the FoldFlat option). With Single Track Sliding Systems, each panel is supported by two carriers and is moved independently into position. When open, the panels can be stacked outside the plane of the opening. Minimal Sliding are floor-to-ceiling sliding glass panes with recessed top and bottom tracks.

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Folding System or Single Track Sliding System: A Comparison

NANAWALL FOLDING SYSTEMS				NANAWALL SINGLE TRACK SLIDING SYSTEMS		
Wood Frames	Wood Aluminum Frames	Aluminum Frames	All Glass	Wood Frames	Aluminum Frames	All Glass
NW Wood 540, NW Acoustical 545, WD65	NW Clad 740	NW Aluminum 640, NW Acoustical 645, NW Reinforced 647, NW Aluminum 840, NW Reinforced 847, SL60, SL45, SL70, SL73.	CSW75, FSW75	HSW66 BeyondLiftSlide, SwingSlide	HSW60	HSW75, PrivaSEE™, ClimaCLEAR™

NANAWALL MINIMAL SLIDING SYSTEM
Aluminum Frames
cero

Advantages of NanaWall Folding Systems

- Walls can quickly be opened and closed. The units can be fully or partially open.

- With odd number of panels on one side, a single swing door is possible.

- With an odd number of panels on both sides, a pair of swing doors is possible.

- Depending on where a swing panel is located and depending on the wall trim, a swing panel can be opened 180º.

- A multitude of stacking configurations, as well as inward and outward opening options are available.

- Folding systems have higher testing results for air infiltration, water penetration, structural performance, acoustics, and forced entry.

- All structural loads are with in the plane of the opening. No auxiliary track or support is needed outside the opening.

- Both top supported and floor mounted systems are available.

- Variations can be paired panels, FoldFlat, SixFold and FourFold options.

Advantages of NanaWall Single Track Sliding Systems

- Panels can be stacked beyond the plane of the opening to literally create disappearing walls. Panels can be stored in a closet or a wall pocket if necessary.

- There is tremendous flexibility in track and parking bay layouts.

- With the HSW60 and HSW75, incorporated swing doors (also known as single action sliding panels) can be almost anywhere in the opening.

- On the main opening, all the panels use a single track. As multiple tracks are not needed, standard wall thicknesses can be used.

- The floor track does not have a groove or channel; the top supported sliding panels can be moved without the need of guides or channels in the floor.

- Virtually unlimited number of panels is restricted only by structural steel constraints.

- Even if there are structural posts, tracks can be laid to the inside or outside of the post to allow sliding beyond the posts.

- With an ingenious variable angle astragal profile, for the HSW60 and HSW66 any segmented angle between 90º and 180º and between flat panels is possible. These segmented angles are also possible with the HSW75 system.

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Advantages of NanaWall Minimal Sliding System

- The panel's rail and stile are uniform 1 5/16" (34 mm) top to bottom creating a symmetrical and minimal design.

- Floor supported technology assures the rollers run above the water table.

- Endless array of fixed and sliding panel configurations allow for limitless design potential from open or fixed corners to pocket wall egression.

- Easy opening and closing with a single handle, one-handed operation.

- Panels can be stacked at the opening or stored in a wall pocket.

- Eliminates the metal vertical stiles touching the adjacent glass sliding during the opening and closing process.

- Optional automation accessory by others, that operate and securely lock the large panels with a simple touch of a button.

- Tested for U-value as low as .29 and SHGC values as low as .19 to meet the energy code requirements.

- Rigorous tested to withstand 40,000 opening and closing cycles with sound ratings up to unit STC (Rw) 43.

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Frequently Asked Questions

Question: Why should I use a large operable glass wall?

Answer: For many architects and designers, the reason is the "WOW" factor. When you open a large glass wall with ease, there is a change to the occupants' psychological aspect of the space. The benefits to name a few, are natural daylight, fresh air ventilation, views, and indoor/outdoor connection.

Question: What are your standard sizes?

Answer: For Folding Glass Walls, the maximum system height is 12' tall, the maximum system length is 43' wide, and the maximum number of panels possible is 12. For Single Track Sliding Glass Walls, maximum system height is 12' tall, the maximum system lenght is unlimited (record is 323 feet), and the maximum number of panels are unlimited. Single Track Sliding Glass Walls offer the largest panel sizes as up to 9' 10" in width and 13' 1" in height.

Question: What if I want matching windows to the large opening glass wall?

Answer: NanaWall has matching Tilt-Turn and fixed window systems to meet your design criteria. Window/Door combination is available as well and is ideal for kitchen transition projects. NanaWall window and door handles are the same and the same profile (section) are used for a harmonious look.

Question: Why are engineered and tested systems from a single source supplier important?

Answer: NanaWall is a single source provider of opening glass walls. On exterior applications, NanaWall has engineered and independently tested the systems for air and water penetration resistance, structural deflection, thermal performance, forced entry, and cycle testing. Similarly, for interior applications, the systems have been engineered and independently tested for acoustic performance, forced entry, and cycle testing.

Question: Why does NanaWall Systems offer so many different systems?

Answer: Each system has its own features and benefits engineered to solve specific design requirements. NanaWall provides only the appropriate system for a specific application need. There are 3 distinct product families: Folding, Sliding, and Minimal Sliding.

Question: What are the differences between Folding and Single Track Sliding Systems?

Answer: Folding Systems are panels connected together in a train. When open, the panels remain in the plane of the opening and stack 90° to the track (except for the FoldFlat option). With Single Track Sliding Systems, each panel is supported by two carriers and moved independently into position. Panels can be stacked outside the plane of the opening and into a parking bay.

Question: In aluminum systems, what are the differences between standard profiles and thermally broken profiles?

Answer: As aluminum is a conductor of energy, with the standard system SL45, there is heat transmission through the aluminum profiles. With thermally broken systems, NW Aluminum 640, NW Acoustical 645, NW Reinforced 647, NW Aluminum 840, NW Reinforced 847, SL60, SL70, SL73, HSW60 and cero, a fiber glass reinforced polyamide material between the inside aluminum profile and outside aluminum profile provides a thermal break to energy transmission. Thermally broken systems are best used when low thermal "U" values are needed.

Question: With the different sill options available, which is best?

Answer: Depending on the exact application, generally the hybrid and high weather performance sill of any system are more weather resistant than saddle or flush sills.. The flush sill is best used at interior applications or where weather resistance is not important. The surface mounted interior sill and minimal surface mounted sill are best used at interior applications where minimum recess of the sill is needed. See the "Performance Results" under Download Design and Technical Resources of each system for sill modifications and specific results.

Question: Why is wind speed not enough to determine what system and number of panels are needed in high wind area applications?

Answer: Many factors besides wind speed need to be considered for meeting structural requirements. Some other factors include: the relevant code requirements, proximity to the coast, type of building, height of building, and where the unit is to be used in the building. What is needed are the positive and negative design wind loads provided by the project structural engineer.

Question: Do NanaWall Opening Glass Walls allow for LEED points?

Answer: Yes. NanaWall uses recyclable aluminum, environmentally friendly powder coat paints, water-based wood finishes and recyclable packing material. Although NanaWall does not assign points for the project, it does offer assistance working with the US Green Building Council.

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Question: How do I contact a sales representative in my area for product assistance?

Answer: NanaWall has over 45 sales representative within the USA, Canada, Mexico, the Caribbean, and Central America. To find a local representative, use the 'Rep Finder' on www.nanawall.com.

Question: What type of design files does NanaWall provide?

Answer: NanaWall's CAD and Technical Resources library has different types of design files for the client's need. The files available in: CAD, Sketchup, Revit, and IFC Model that can be imported in ArchiCAD.

Question: How do I get a price quote for my project?

Answer: To get a copy of the quote, contact the local NanaWall representative for assistance. The representatives can be located through the Rep Finder. This will allow you to get the most advantageous price possible.

Question: What is the difference between glass only STC and unit STC?

Answer: STC is a unit of measure of how much airborne sound energy is diminished across a boundary wall or partition. It is mostly used for interior spaces. With STC, the higher the rating means the greater the sound attenuation capabilities of the interior partition. Glass STC is the rating of just the glass. Unit STC is the rating of the entire system including the framing, gaskets, and the glass.

Question: How do NanaWall systems achieve California Building Energy Efficiency Standards (Title 24)?

Answer: Title 24 is a state code designed to ensure optimal energy efficiency compliance. Currently, Title 24 requires net-zero level of energy consumption in all residential application. By 2030, all California new commercial construction will require zero net energy. NanaWall systems have been used to meet Title 24 requirements and can be integrated into projects with both the performance and prescriptive method.

Question: What are the lead times on your systems? Can the order be expedited?

Answer: The lead times vary on system selection and design choices. For the current lead times, check Support - Lead Times on www.nanawall.com

Question: Can I order additional or replacement parts for my NanaWall System?

Answer: Yes. Most NanaWall replacement parts are readily available online. Contact service@nanawall.com with the order number, project name, project address, and/or any photos of the project.

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Why Choose NanaWall

Value

- Luxury Brand Recognition: The NanaWall luxury brand recognition helps in the marketing and sale of spec homes as well in the resale of homes.

- Increases the Value of a Project: NanaWall provides a superior return on investment for residential projects. For hospitality projects, NanaWall has shown to have increased restaurant revenues.

- Creates a Focal Point of a Project: NanaWall becomes a focal point of a residential space. It transforms and customizes any room to meet the dynamic needs of the homeowner.

- Choices: NanaWall is unique by providing discerning customers a choice of over 21 different solutions, with different price points, and professional sales assistance to determine which is best for their individual needs.

- Architects choice: More architects have NanaWall systems in their own homes than any other company. Architects' sole choice in over 90% of publicly available specs.

- Direct Sales: NanaWall Systems will quote direct to the customer eliminating unnecessary markups.

- Fair Pricing: Simply, all products are worth the price charged.

Aesthetics

- Clean Lines: Minimal tracks, frames, and side jambs with concealed hardware.

- Exhilarating Room Transformation: Unique design elements and additions like opening glass walls ensure a seamless fusion between the comfort of indoors and a continuous connection to the outdoors.

- Wide Range of Selections Available: 21 unique systems including wood, aluminum and aluminum clad over wood for uncompromising choices to meet any design.

- Design Freedom with Custom Choices: Color, size, configuration, materials, glazing, locking, sills, and handles create unique openings made just for you.

- Hardware and Glass: NanaWall are shipped with concealed hardware pre-fitted, attached, and ready for use including insulated glass and glazing.

- European Styling: Sleek profiles allow glass areas to be maximized.

- Folding Systems: Where panels remain stacked in the opening and perpendicular (except for the FoldFlat option).

- Single Track Sliding Systems: Where panels with various

configurations and parking pay can stack outside the plane of the opening.

- One Track Sill: Both top hung and floor mounted systems are available. Floor supported systems suspend the tandem rollers above the bottom of the sill for easier maintenance and longer life. Top hung systems have an upper-running carraige with wheeled rollers coated with fiberglass reinforced polyamide.

Quality

- AAMA Tested: Systems have been tested for Air, Water and Structural performance per AAMA standards, and met various requirements.

- Energy Savings-NFRC Approved: Systems are rated, certified, and labeled in accordance with NFRC 100, 200, 400 & 500 and some systems can meet Energy Star values with selected glazing.

- Hurricane & Impact Rated: Miami Dade County approved system also tested to AAMA standards.

- Real World Tested: Installations in Europe since 1984 and in America since 1994.

- ISO 9001: The Solarlux plant in Germany is ISO 9001 approved.

- ISO 14001: Solarlux is IS0 14001, environment management registration approved.

- Security Tested: Multi point locking and key locks combine to meet and exceed AAMA certification for forced entry resistance. Also tested to various European standards.

- Life Cycle Test: Systems passed 20,000, 40,000, and 500,000 cycle testing per American and European standards.

- STC and OITC Rated: Nine systems sound tested, with some systems meeting up to 45 STC Rating with appropriate glazing.

- Effortless Operation: Precision engineering makes single hand operation possible.

- German Designed and Engineered: Recognized as the world leader in engineering, the NanaWall product is single sourced from Solarlux including both hardware and panels.

- Americanized: Products have been adapted to meet American and Canadian codes, testing, performance requirements, ADA and hardware requisites.

- USA Produced: A few unique systems are manufactured in Richmond, CA. The remaining systems are produced in Germany.

- Life Cycle Costs: Compare the total package including longevity of product when considering total user costs. With its precision engineering, the NanaWall provides long-term satisfactory operation. This longevity lowers life cycle costs and lowers the total cost of ownership. This also means that less energy and resources need to be utilized to make replacement product.

- Adjustability Features: Some hardware can be adjusted to offset building movement resulting in longer life cycles.

- Quality Materials: Components such as Polyamide coated stainless steel ball bearing rollers are designed for long-term performance.

- Proven Materials: NanaWall uses proven materials like extruded aluminum and triple laminated wood for long lasting performance.

- Easy Cleaning: Several systems have removable hinge pins for easy access cleaning even for high-rise applications.

- Warranty: Ten years on rollers and insulated glass, five years on laminated glass and five years on all aspects of the product, doubled to ten years if installed by a certified installer.

- Sustainability Consideration: Pioneers of the "Green" movement in folding glass doors. NanaWall Systems offers powder coat finishes for aluminum systems and water based finishes for wood systems. LEED points possibilities. Use NanaWall to create a more effective space which can reduce the building footprint and lower overall construction costs. The Solarlux plant in Germany is ISO 14001 Environmental Management certified.

Experience

- Over a Million Panels Installed Worldwide: Our units have been installed in all types of climate zones, from the Arctic to the Sahara to hurricane areas.

- Largest Folding System Project in the World: Over 5,000 panels used at Honua Kai in Hawaii.

- Varied Types of Projects: Residential, commercial, schools, sport venues … You name it, we've likely done it.

- World Leader: NanaWall Systems, with its partner Solarlux, from Germany, is the world leader in exterior opening glass wall technology.

- Proven Reputation: NanaWall Systems has over 35 years experience in the sale of sliding-folding systems.

- New Systems: In response to market needs, we innovate and develop an average of one new large opening glass wall system a year.

- Financially Viable: Dun and Bradstreet rated.

- Respected Everywhere: Adhere to strong beliefs that guide business decisions.

- Customer Oriented: NanaWall Systems business philosophy is simply to satisfy the customer. A satisfactory record with the Better Business Bureau.

- Patents: USA and German patents and trademarks show a commitment to research and design for future viability.

Support

- Easy to Order: All orders include project specific product drawings to reduce mistakes and provide consistent communication.

- Call-back Minimization: Engineering quality and installation excellence minimizes call-backs.

- Accurate Delivery Timelines: We don't exaggerate delivery schedules to win bids and then backslide, we offer accurate delivery projections. Deliveries are 95% on time.

- Support Staff: Dedicated technical support personnel trained in Germany are available in Corte Madera, CA, Headquarters, for any product-related questions.

- Architectural Support: Support staff, sales people, and technical support are available to visit architectural facilities to help with the design process.

- Single Source Responsibility: Complete, engineered systems with factory-set, factory-installed hardware.

- Factory Direct Showrooms: There are 22+ showrooms across North America with friendly, helpful, knowledgeable staff including Scottsdale, AZ; San Diego, CA; San Francisco, CA; Los Angeles, CA; Denver, CO; Washington, DC; Kailua Kona, HI; Chicago, IL; Indianapolis, IN; Detroit, MI; Omaha, NE; New York, NY; Cleveland, OH; Philadelphia, PA; Houston, TX; Dallas, TX; Salt Lake City, UT; Seattle, WA; Toronto, ON; Montreal, QC; Vancouver BC, and Monterrey, Mexico.

- 45 Field Representatives and Dealers: Every major city is represented along with Canada, Mexico, and the Caribbean, entire North and Central America is covered.

- Thorough Website: Award winning website to help guide through the selection process, provide specs, CAD and other technical files.

- Certified Installers: Available upon request are independent, factory trained certified installers to make sure the product operates as stated.

- Service Technicians: Our certified installers are also our service technicians for any on site issues whether under warranty or afterward.

- Replacement Parts: All systems supplied have replacement parts available, if needed.

NanaWall®
Boundaries **Unbound**®

Locking Options For All Systems
*(except the NanaWall HSW75, PrivaSEE™, ClimaCLEAR™, CSW75, FSW75, cero, and Matching Windows)*

Animation of available locking systems and their operation can be seen at www.nanawall.com.

Multi Point Locking consisting of Latch, Deadbolt and top/bottom Locking Rods.

Standard for and available only for the primary swing panel of all systems.

After unlocking with a thumbturn or key, depression of a lever handle on the inside or the outside withdraws latch. Lifting of handle engages the locking points. Uses 8 mm spindle

With a standard profile cylinder, a panel is lockable with a thumbturn from the inside and a key from the outside. Besides the standard profile cylinder, adapters can be provided for use of small format interchangeable core (SFIC) cylinders.

3 5/8" (92 mm)
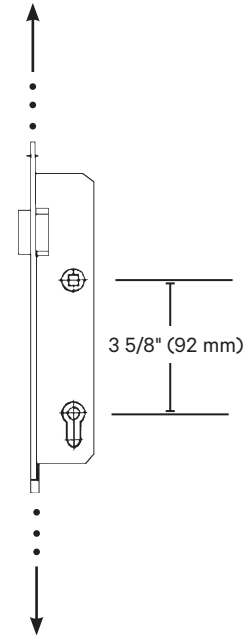
One Point Locking consisting of Latch and Deadbolt

(Not tested for exterior windload and not suitable for panel height of more than 8'.)

After unlocking with a thumbturn or key, depression of a lever handle withdraws latch. Uses 8 mm spindle. Force requirement to depress lever handle is equal to or less than 5 lbs (2.2 k).

With a profile cylinder, a panel is lockable with a thumb turn from the inside and a key from the outside. Besides the standard profile cylinder, adapters can be provided for use of small format interchangeable core (SFIC) cylinders.
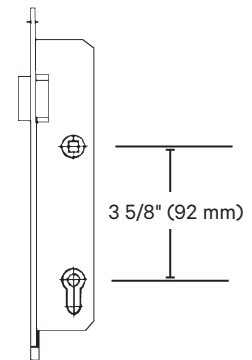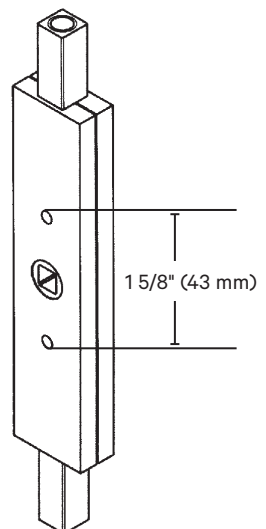
Also available in a single action motion option on select systems (presently the SL45, SL70, and WD65 systems).

3 5/8" (92 mm)

Standard Two Point Locking

Standard on all locking systems with handle operable from the inside only.

180º turn of handle moves locking rods up or down. Uses handle with 7 mm square spindle.

1 5/8" (43 mm)

Locking Options For All Systems
(except the NanaWall HSW75, PrivaSEE™, ClimaCLEAR™, CSW75, FSW75, cero, and Matching Windows)

Animation of available locking systems and their operation can be seen at www.nanawall.com.

Deadbolt Lock(s) ────────────────────────────▶

Possible only on the primary and secondary swing panels; on secondary swing panels it is installed to engage to the head jamb or sill. With a profile cylinder, panel is lockable with a key from both sides or a thumbturn from the inside and a key from the outside.

The deadbolt lock is provided on a panel with push/pull handles on both sides.

To keep panel closed when deadbolt(s) is not engaged, a door closer would be needed. Please note that for folding systems, a door closer is practical for swing panels attached to a side jamb only.

1 1/4" (32 mm)

Three Point Locking ────────────────────────────▶

2 7/16" (62 mm)
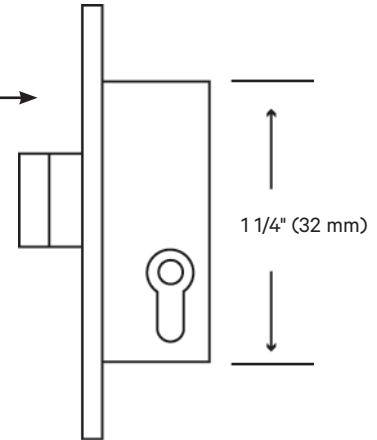
Not recommended for a frequently used swing door.

The Special Two Point Locking with Cylinder option is also possible on the primary pair of folding panels of all folding systems and primary sliding panel of sliding systems, but without the horizontal bolt. The purpose of this option is to allow secure access from the outside on units with no swing panel. This locking option can also be used with a key operated half cylinder as a custodial hardware option.

180º turn of handle on the inside or outside moves the locking rods and the horizontal bolt. Uses handle with a 7 mm square spindle.

With a standard profile cylinder, panel is lockable with a thumbturn or key from the inside and a key from the outside. Besides the standard profile cylinder, adapters can be provided for use of small format interchangeable core (SFIC) cylinders.
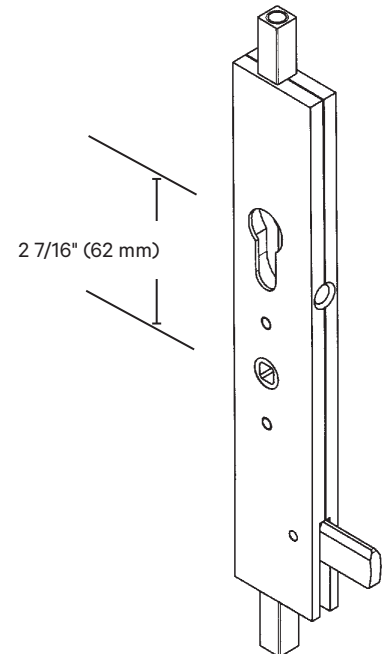
Panic Hardware

Contact NanaWall for panic hardware compatibility.

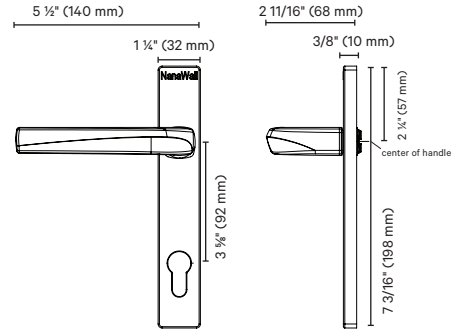**NanaWall**®
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Standard Handle Options for All Systems
(except the NanaWall HSW75, PrivaSEE™, ClimaCLEAR™, CSW75, FSW75, cero, and Matching Windows)

Stainless steel - available in brushed satin or black titanium finish—specially designed all matching handles for NanaWall.

Standard Lever Handle

Lever Handles and Trim Plates for use with the multi point locking at the primary swing panel of all systems. Except for the SL45 and the Generation 4 product line, similar dummy lever handles and trim plates are available for a secondary swing panel.

Standard Flat Handle

For use with the standard two point locking and three point locking of all systems except SL70 and SL73.

Specially designed to stack panels flat against each other in the open position.
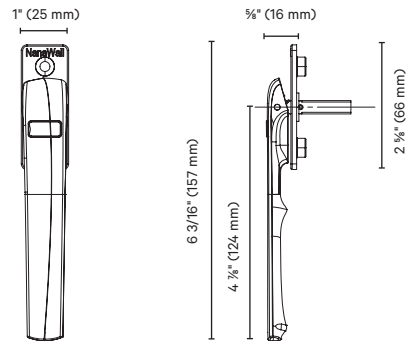
Standard Handle

For use with the standard two point locking and three point locking of the SL70 and SL73 systems. Also for use with all matching tilt-turn windows and doors.
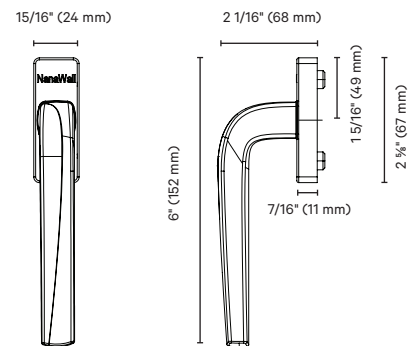
Standard L-Shaped Handle

For use with the three point locking. May have this handle on both sides or only on the inside with either the flat handle or standard handle on the outside.

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Alternative Handle Options for All Systems
(except the NanaWall HSW75, PrivaSEE™, ClimaCLEAR™, CSW75, FSW75, cero, and Matching Windows)
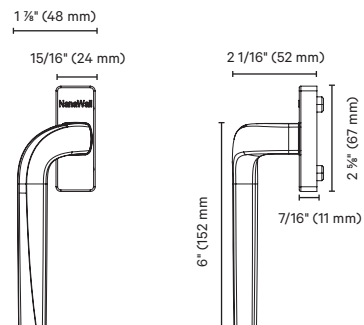
Powder Coated Flat Handle

For use with the standard two point locking and three point locking of all systems except SL70 and SL73. For aluminum systems, available in closest powdercoat match to panel finish.

Special design to stack panels flat against each other in the open position.

¾" (19 mm) ⅝" (16 mm)

6 ¼" (158 mm)
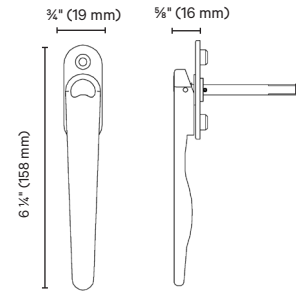
Hoppe Lever Handle

Applicable for SL45, SL60, SL70, SL73, WD65, HSW60, and HSW66

Lever Handles and Trim Plates in Oil Rubbed Brass, Satin Nickel, or White finish for use with the multi point locking at the main swing panel of all systems. For these systems (except SL45), similar dummy lever handles and trim plates are available for a secondary swing panel.

2 7/16" (62 mm)

3 3/16" (158 mm)

8 ¾" (222 mm)

3 ⅝" (92 mm)

1 3/16" (30 mm) 5/16" (8 mm)

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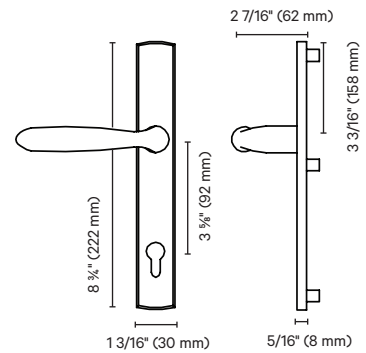
Special Hardware

Monumental Hinge for HSW60 and SL60 Commercial Swing Panel attached to the Side Jamb

(Depending on panel size and application, a standard hinge or a monumental hinge may be used.) Available in clear or dark bronze anodized finishes.

5 ⅛" (132 mm)

3 1/16" (78 mm)

1 ¼" (32 mm)

13/16" (21 mm)

1 15/16" (49 mm)
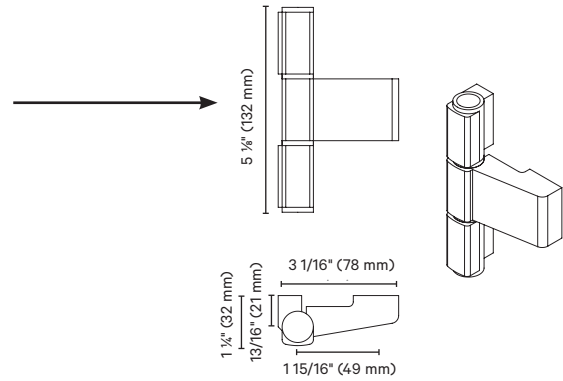
Push/Pull Handle

For use with deadbolt locks on a swing panel. To keep the swing panel closed, it is recommended that a door closer be used. But note that for folding systems, a closer is only practical for a swing panel attached to a side jamb.

Available in brushed stainless steel finish.

OPTION 1

3 ¼" (82 mm)

1 3/16" (30 mm)

15 11/16" (398 mm)

17 ¼" (438 mm)

center of handle

1 9/16" (40 mm)

3 15/16" (100 mm)

30°

¾" (19 mm)

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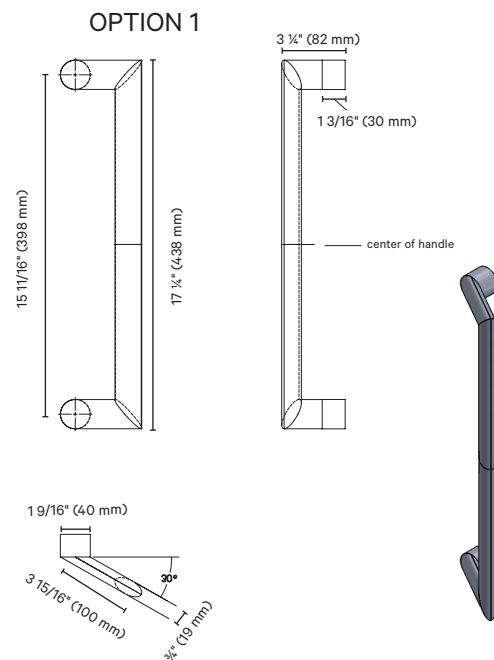
Use of Handles and Escutcheon Plates from Other Suppliers

See the handle and locking options pages for dimensions of the standard hardware supplied.

Although availability may be restrictive and limited, other compatible handles and escutcheon plates can be used in place of the handles and escutcheon plates provided with the systems. If other escutcheon plates are planned to be used, NanaWall Systems must be notified when placing an order.

With Two Point Locking

In place of standard flat handles, any European style window handle using a 9/32" (7 mm) square spindle can be used, provided that the rosette base width is less than 1-1/4" (32 mm). Spindle length needed would vary with system – anywhere from 1 3/16" (30 mm) to 2 3/8" (60 mm). Widths of any profile cylinders used will vary with thickness of panel profile and trim plates. Also, lengths from center of screw hole in profile cylinder to either side are not equal on some systems. Also with the following additional constraints:

WD65, SL60, SL45

Inward Opening Units: Handle protrusion from the face of the panel may be more than 5/8" (16 mm), but the folding stack will not be as flat a stack with NanaWall standard handles.

Outward Opening Units: The handle protrusion from the face of the panel must be less than 5/8" (16 mm).

HSW60, HSW66

Handle protrusion from the face of the panel may be more than 5/8" (16 mm), but parking bay dimensions may be affected as stacking may not be as flat as stacking with NanaWall standard handles.

With Multi Point Locking with Latch and Deadbolt

In place of standard lever handles on the swing panel, any European specification lever handle with an 5/16" (8 mm) square spindle can be used. Spindle length needed would vary with thickness of panel profile and trim plates. Only escutcheon plates with the following specifications can be used: The base width must be less than 1 1/4" (32 mm). The distance between the center of the spindle hole and the center of the lockset must be the European standard of 3 5/8" (92 mm).

For escutcheon plates that are attached with screws from the inside to the outside, the trim plate length must be such that the distance between the center points of the two screw holes is at least 7 7/8" (200 mm).

Suppliers

For other handle types, NanaWall recommends the following suppliers.

Hoppe North America, Inc.
205 East Blackhawk Drive
Fort Atkinson, WI 53538
(920) 563-2626
Fax (920) 563-4408
www.us.hoppe.com

BKS GmbH
Heidestraße 71
42549 Velbert
+49 2051 201-0
Fax +49 2051 201-431
www.g-u.com

FSB
1 Bishop Lane
Madison, CT 06443
(203) 404-4700
Fax (203) 404-4710
www.fsbma.com

Omnia Industries, Inc.
P.O. Box 330
5 Cliffside Drive
Cedar Grove, NJ 07009
Toll Free (800) 310-7960
Phone (973) 239-7272
Fax (973) 239-5960
www.omniaindustries.com

Valli & Valli (U.S.A.) Inc.
964 Third Ave Ste. 563
New York, NY 10155
Toll Free (877) 326-2565
(212) 326-8811
Fax (212) 326-8816
www.vallivalli-us.com

Yale
225 Episcopal Road
Berlin, CT 06037
Toll Free (855) 557-5078
www.yalecommercial.com/en

Schlage
3112 Santa Rite Road
Pleasanton, CA 94566
Toll Free (925) 201 6522

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Finish Options for Aluminum and Clad Systems

NanaWall offers the following four types of finishes:

Anodized

Besides clear anodized, other anodized finishes are available on request.

PVDF Kynar

PVDF Kynar finishes are available for the SL45, SL70, and SL73.

Powder Coated

Choose from hundreds of powder coated finishes. For many systems, different finishes on the inside and outside are

possible. Simulated wood grain powder coated finishes are available on request.

Besides the 50 finishes shown in the NanaWall Powder Coating Finish Chart, below is a list of RAL colors available in both standard gloss and matte powder coated finishes. A RAL color chart is available on request.

Composite Metals

Check with NanaWall on composite metallic finishes, such as copper, brass, nickel-silver, etc.

DB Colors - Steel Effect

These finishes have mica pigments that offer reflective, pearlescent, metallic values with a fine matte texture. Customized for NW Aluminum 640 and NW Aluminum 840.

Powder coated RAL Gloss and Matte colors available

A color chart is available upon request and can be viewed at www.nanawall.com.

RAL 1000 Green Beige	RAL 1016 Sulfur Yellow	RAL 2000 Yellow Orange	RAL 3002 Carmine Red	RAL 3017 Rose	RAL 4007 Purple Violet
RAL 1001 Beige	RAL 1017 Saffron Yellow	RAL 2002 Red Orange	RAL 3003 Ruby Red	RAL 3018 Strawberry Red	RAL 4008 Signal Violet
RAL 1002 Sand Yellow	RAL 1018 Zinc Yellow	RAL 2002 Vermilion	RAL 3004 Purple Red	RAL 3020 Traffic Red	RAL 4009 Pastel Violet
RAL 1003 Signal Yellow	RAL 1020 Olive Yellow	RAL 2003 Pastel Orange	RAL 3005 Wine Red	RAL 3022 Salmon Pink	RAL 4010 Telemagenta
RAL 1004 Green Yellow	RAL 1021 Colza Yellow	RAL 2005 Purel Orange	RAL 3007 Black Red	RAL 3027 Raspberry Red	RAL 5000 Violet Blue
RAL 1005 Honey Yellow	RAL 1023 Traffic Yellow	RAL 2008 Bright Red Orange	RAL 3009 Oxide Red	RAL 3031 Oreint Red	RAL 5001 Green Blue
RAL 1006 Maize Yellow	RAL 1024 Ochre Yellow	RAL 2009 Traffic Orange	RAL 3011 Brown Red	RAL 4001 Red Lilac	RAL 5002 Ultramarine Blue
RAL 1007 Daffodil Yellow	RAL 1027 Curry	RAL 2010 Signal Orange	RAL 3012 Beige Red	RAL 4002 Red Violet	RAL 5003 Sapphire Blue
RAL 1011 Brown Beige	RAL 1028 Melon Yellow	RAL 2011 Deep Orange	RAL 3013 Tomato Red	RAL 4003 Heather Violet	RAL 5004 Black Blue
RAL 1012 Lemon Yellow	RAL 1032 Broom Yellow	RAL 2012 Salmon Orange	RAL 3014 Antique Pink	RAL 4004 Claret Violet	RAL 5007 Brilliant Blue
RAL 1013 Oyster White	RAL 1033 Dahlia Yellow	RAL 3000 Flame Red	RAL 3015 Light Pink	RAL 4005 Blue Lilac	RAL 5008 Gray Blue
RAL 1014 Ivory	RAL 1034 Pastel Yellow	RAL 3001 Signal Red	RAL 3016 Coral Red	RAL 4006 Traffic Purple	RAL 5009 Azure Blue

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(Continued) Powder coated RAL Gloss and Matte colors available
A color chart is available upon request and can be viewed at www.nanawall.com.

RAL 5010 Gentian Blue	RAL 6006 Gray Olive	RAL 6027 Light Green	RAL 7015 Slate Gray	RAL 7045 Telegray 1	RAL 8025 Pale Brown
RAL 5012 Light Blue	RAL 6007 Bottle Green	RAL 6028 Pine Green	RAL 7016 Anthracite Gray	RAL 7046 Telegray 2	RAL 8028 Terra Brown
RAL 5013 Cobalt Blue	RAL 6008 Brown Green	RAL 6029 Mint Green	RAL 7021 Black Gray	RAL 7047 Telegray 4	RAL 9001 Cream
RAL 5014 Pigeon Blue	RAL 6009 Fir Green	RAL 6032 Signal Green	RAL 7022 Umbra Gray	RAL 8000 Green Brown	RAL 9002 Gray White
RAL 5015 Sky Blue	RAL 6010 Grass Green	RAL 6033 Mint Turquoise	RAL 7024 Graphite Gray	RAL 8001 Ocher Brown	RAL 9003 Signal White
RAL 5017 Traffic Blue	RAL 6011 Reseda Green	RAL 6034 Pastel Turquoise	RAL 7026 Granite Gray	RAL 8002 Signal Brown	RAL 9004 Signal Black
RAL 5018 Turquoise Blue	RAL 6013 Reed Green	RAL 7000 Squirrel Gray	RAL 7030 Stone Gray	RAL 8003 Clay Brown	RAL 9006 Silver Gray
RAL 5019 Capri Blue	RAL 6014 Yellow Olive	RAL 7001 Silver Gray	RAL 7031 Blue Gray	RAL 8004 Copper Brown	RAL 9007 Gray Aluminum
RAL 5020 Ocean Blue	RAL 6015 Black Olive	RAL 7002 Olive Gray	RAL 7032 Pebble Gray	RAL 8007 Fawn Brown	RAL 9010 Pure White
RAL 5021 Water Blue	RAL 6016 Turquoise Green	RAL 7003 Moss Gray	RAL 7033 Cement Gray	RAL 8008 Olive Brown	RAL 9011 Graphite Black
RAL 5022 Night Blue	RAL 6017 May Green	RAL 7004 Signal Gray	RAL 7034 Yellow Gray	RAL 8011 Nut Brown	RAL 9017 Traffic Black
RAL 5023 Distant Blue	RAL 6018 Yellow Green	RAL 7005 Mouse Gray	RAL 7035 Light Gray	RAL 8012 Red Brown	RAL 9018 White Aluminum
RAL 5024 Pastel Blue	RAL 6019 Pastel Green	RAL 7006 Beige Gray	RAL 7036 Platinum Gray	RAL 8015 Chestnut Brown	
RAL 6000 Patina Green	RAL 6020 Chrome Green	RAL 7008 Khaki Gray	RAL 7037 Dusty Gray	RAL 8016 Mahogany Brown	
RAL 6001 Emerald Green	RAL 6021 Pale Green	RAL 7009 Green Gray	RAL 7038 Agate Gray	RAL 8017 Chocolate Brown	
RAL 6002 Leaf Green	RAL 6022 Olive Drab	RAL 7010 Tarpaulin gray	RAL 7039 Quartz Gray	RAL 8019 Gray Brown	
RAL 6003 Olive Green	RAL 6024 Traffic Green	RAL 7011 Iron Gray	RAL 7040 Window Gray	RAL 8022 Black Brown	
RAL 6004 Blue Green	RAL 6025 Fern Green	RAL 7012 Basalt Gray	RAL 7042 Traffic Gray A	RAL 8023 Orange Brown	
RAL 6005 Moss Green	RAL 6026 Opal Green	RAL 7013 Brown Gray	RAL 7043 Traffic Gray B	RAL 8024 Beige Brown	

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Finish Options for Wood and Clad Systems

All factory applied wood care products are waterbased products from Sikkens.

Standard Finishes

Standard for the NW Wood 540, NW Acoustical 545, WD65, HSW66 and WD68 wood systems is either a factory applied water based clear sanding sealer or a base coat.

Standard for the NW Clad 740 and WA68 system is a factory applied water based clear sanding sealer and one additional clear coat. The extra coat is needed to protect the wood behind the clip-on aluminum extrusion.

All units will need to be promptly finished with at least two coats of a final finish upon receipt at the project site. For proper adhesion of the field applied final finish to the wood, the factory applied wood care products would need to be sanded and surfaces cleaned.

FOR NW WOOD 540, NW ACOUSTICAL 545, WD65, HSW66 (BEYONDLIFT SLIDE AND SWINGSLIDE), WD68 SYSTEMS	FOR NW CLAD 740 AND WA68 SYSTEMS
CLEAR SANDING SEALER OPTIONS WITH DIFFERENT WOOD OPTIONS	SANDING SEALER WITH ONE ADDITIONAL CLEAR COAT WITH DIFFERENT WOOD OPTIONS

Pine (PEFC Certified)
Meranti (PEFC Certified)
Sapeli Mahogany (PEFC Certified)

Available for interior applications only:
Western Hemlock (PEFC Certified)
European Oak (PEFC Certified)
Cherry
Maple

BASE COAT APPLIED	BASE COAT APPLIED AND ONE ADDITIONAL COAT
All wood options	All wood options

For other wood options, please contact NanaWall for availability.
Please note that not all wood species listed above are standard. Upcharges may apply. Please check with NanaWall.

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Compliance Requirements to Applicable Codes, Regulations, and Site Conditions

As regulations governing the use of glazed windows, doors, storefronts and/or partitions vary widely, it is the responsibility of the building owner, architect, contractor, or installer to insure that products selected conform to all applicable codes and regulations, and site conditions, including federal, state, and local. NanaWall Systems, Inc. assumes no obligation or responsibility whatsoever for failure of the building owner, architect, contractor, or installer to comply with all applicable laws, ordinances and safety, and building codes.

General Notes

All windows application above the ground level should only be inward opening units.

Typical installation methods illustrated by NanaWall Systems, Inc. are suggestions that may not be applicable in all situations. Your situation may require special considerations. Please check with your engineer or architect.

Proper installation, operatio,n and maintenance of the products are essential for proper performance. Detailed written installation, operation, and maintenance instructions are available and provided to all customers. It is essential that these instructions be read and followed. It is highly recommended that an experienced certified installer of NanaWall products be used. Installation, including but not limited to method of attachment, fastener selection, and completion of appropriate waterproofing and flashing around the perimeter of the opening, is the sole responsibility of the customer.

Water resistance is relative. Many of NanaWall's systems with certain configurations have been tested with varying degrees of performance results. See Performance Chart of the sills for each system in Download Design and Technical Resources. It is the sole responsibility of the customer to determine the level of performance needed for his/her specific location and site conditions.

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Pre-Installation Preparation and Installation Guidelines

Complete installation instructions are provided in a booklet entitled Owner's Manual that is included with each shipment of the NanaWall system.

The installation of the NanaWall requires a working knowledge and experience in the use of tools, equipment, and methods necessary for the installation of exterior wood or aluminum swinging door or window systems, storefronts, partitions and/or glass. This practice assumes a familiarity with preparing a proper and structurally sound opening, proper anchorage, proper waterproofing and flashing, caulking and sealing, and using paints and other finishes. It assumes an understanding of the fundamentals of building construction that affect the installation of large door or window systems.

We highly recommend using a NanaWall Systems certified factory-trained installer if available, or an installer who has previously worked with NanaWall products.

Preparation of the Rough Opening

Because of the large opening sizes, weight, and movement of the panels, any application should take into consideration the following:

1. The structural integrity of the header is critical for proper operation. Vertical deflection of the header under full live and dead loads should be the lesser of L/720 of the span or 1/4". Structural support to prevent movement due to lateral loads (when the panels are closed such as windloads, or other loads, and when the panels are stacked open) must be provided.

2. The surrounding substrates must be designed and anchored to properly transfer all loads to the main building structure.

3. A qualified engineer or architect should be used to determine the proper construction details and the header to be used in your particular application.

All rough opening spaces and allowances should be about 3/4" wider and 3/8" - 1" taller than the outside frame size of the unit ordered. For FL statewide approval, max. space allowed is 3/8" at each of the four sides of an opening. Adjust frame height as required if the bottom of the frame is not at the same level as the subfloor. It is important that the opening be the correct size.

The rough opening should be level, plumb and square at all points. There should be no unevenness, bowing, or bumps on the floor. A transit and other similar precise measuring equipment must be used to make these determinations.

Make sure that both the subfloor and header are level at all points along the full width of the opening. Not only should the opening be plumb and square at all points, but the two sides should be in the same vertical plane and not offset each other. Do not install your unit until the rough opening is correctly prepared.

With a recessed sill, if concrete is to be poured after the installation of the unit, the sill must be securely attached to the construction. If the sill is to be cast in concrete, then an expansion gap with appropriate material has to created next to the sill.

Properly flash, trim, and waterproof around the perimeter of the opening, especially at the sill. Make sure you obtain proper professional advice for the appropriate method and details for your particular application.

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Sustainable Design

ENVIRONMENTAL STATEMENT 2013

Sustainable Manufacturing History

NanaWall and Solarlux have been firmly committed to preserving our environment, long before the sustainable design consensus was created. For wood systems, our manufacturing facilities use water based finishes which use less energy, have limited VOC and are 100% recyclable. For aluminum systems, we use environmentally friendly powder coated finishes. The Solarlux plant in Germany is both ISO 9001, Quality Management Standard, certified. The Solarlux plant in Germany is also ISO 14001, Environmental Management Standard, verified.

With over a million panels installed worldwide, in all climate zones, we are the World Leader in exterior opening glass technology. NanaWall is a proud member of the US Green Building Council and a sustainable design continuing education provider for the American Institute of Architects, and a founding sponsor of the AIA Committee on the Environment (COTE).

Sustainable by Function

NanaWall is a Lifestyle, not just a green product. The flexibility of the operable glass walls create a smaller carbon footprint by allowing designers to have flexible use spaces (interior & exterior), natural ventilation, acoustical separation, daylight and exhilarating views. NanaWall operable glass wall systems creates value, luxury, and shelter. The NanaWall systems can be energy efficient, acoustical, and weather-resistant, including systems that can withstand hurricane forces. But the real value of the NanaWall is the Exhilarating Room Transformation experienced when you open the glass wall system and the outdoor environment and indoor environment becomes one seamless environment.

Sustainable Product

NanaWall glass operating walls are NFRC Certified Systems when using select glazing with industry leading U-Factors and SHGC. Our aluminum extrusions are 100% recyclable and have a up to 59% (depending on source) pre-consumer recycled content. PEFC certified wood with proper Chain of Custody Certification is also available as an option. Our unique packaging is produced from 60% recycled material and is 100% recyclable. The legacy system WA67 with triple glazing meets Passive House Standards.

SUSTAINABLE DESIGN PROJECTS			
APPLICATION	RATING	ARCHITECT NAME	LOCATION
SHOWHOUSES			
Solar Decathlon 2016 - University of Texas at Austin			Austin, TX
Solar Decathlon 2016 - Alfred State College			Alfred, NY
Solar Decathlon 2016 - Solar Cal Poly			San Luis Obispo, CA
RESIDENTIAL			
Cincinnati Design Show House	Gold	Great Traditions Homes	Cincinnati, OH
Sunset House Monterrey	Platinum	Hood Thomas	Monterey, CA
Tassafaronga Village	Gold	David Baker + Partners	Oakland, CA
Omena Residence	Gold	dkf Architecture	Cambridge, MA
Fort Collins Residence	Gold	Neenan Company	Fort Collins, CO
Margarido House	Platinum	McDonald Construction & Development	Oakland, CA
Carmel Residence	Platinum	Carver + Schicketanz	Carmel, CA
Rose Cottege	Platinum	HL Turner Group Inc	Concord NH
Jacksonville Residence	Platinum	C Squared Design	Jacksonville, FL
Victoria Residence - BC	Platinum	BTH Construction	Victoria, BC
COMMERCIAL			
Kresge Foundation Headquarters	Gold		Troy, MI
Horicon Marsh International Education Center	Silver		Horicon, WI
IFAW - Headquarters	Gold	DesignLAB Architects	Boston, MA
International Professional Services	Gold	Fox Architects	Washington, DC
Freeman Web Building	Gold	Hastings Architecture Associates LLC	Nashville, TN
NRGH Hospital			Nanaimo, BC
Phipps Conservatory and Botanical Garden	Platinum	Design Alliance Architects	Pittsburg, PA
Salt Rivers Field	Gold	HKS	Scottsdale, AZ
Shore Hotel	Gold	Gensler	Santa Monica, CA
Watsonville Water Resource	Platinum	WRNS Studio LLP	Watsonville, CA

LEED For Homes Version 2008/2010

How Nanawall Products May Contribute

The purpose of this document is to help residential designers and builders achieve the highest possible energy efficiency for housing or homes. Our products are capable of meeting the testing guidelines of the National Fenestration Rating Council, the ANSI ICC 700-2008, and the Energy Star program. The following will show you how to maximize project LEED credits using our products to help obtain maximum points under the LEED for Homes program. LEED is a consensus based standard useful for managing the development of environmentally responsible buildings. A LEED for Homes certified home must obtain a minimum of 45 points out of 136 (Silver 60 pt, Gold 75 pt, Platinum 90 pt). Additional benefits can include Tax and utility rebates, along with marketing incentives. More information is available through the USGBC @ www.usgbc.org.

EA 1: Optimize Energy Performance (1-34 points)

NanaWall Solutions: NanaWall Operable Glass Walls are available in various glazing options with NFRC ratings that meet Energy Star door performance levels including U-Factors as low as 0.17 and a SHGC of 0.21. Please see product structural and thermal performance data on website for specific product performance.

EA 4: Windows - Prescriptive Path (1-3 points) (Alt to EA1 Above)

NanaWall Solutions: NanaWall Operable Glass Walls meets the 4.1 Good Windows prerequisites and also qualifies for Exceptional Windows (3 credits). SL70 triple insulated Low E glass with argon fill, which has a U-Factor of 0.28 and SHGC of 0.24.

For hurricane prone coastal areas and weather resistance, choose SL73 with double insulated Impact Low-E Glass on two surfaces with argon fill, which has a U-Factor of 0.32 and SHGC of 0.18, but has the additional protection of Impact Resistance for hurricanes. SL73 meets the Florida Building Code and Dade County for Impact for Missile D test standard.

MR 2 : Environmentally Preferable Product

Prerequisite 0.25 point.
Prerequisite + 30% of credits 0.5 point, Prerequisite + 60% of credits 1 point.
Tropical wood, when used, must be FSC/certified Recycled content can be from any USGBC recognized certification scheme.

NanaWall Solutions: NanaWall Meranti, European Pine, and Oak are available to be upgraded as PEFC certified wood. Depending on the wood selected, potential contributions include: forestry specialty conservation value, reforestation, timber procurement, economic viability, training and research. NanaWall/Solarlux holds PEFC and FSC Chain of Custody Certification (certificate SGS-COC-008117). Although not eligible for LEED 2009 credit, NanaWall's Douglas Fir wood has PEFC Chain of Custody Certification (certificate SGS/COC-1188). Both FSC and PEFC certified wood are documented from the certified forest to the end user in a controlled "Chain of Custody" independently verified for adherence to PEFC standards.

ID 3: Innovation or Regional Design (1-4 points)

NanaWall Solutions: NanaWall Operable Glass Walls provide a direct connection to the outdoors, views, occupancy well-being while reducing energy at exemplary levels exceeding Energy Star. Designers are able to reduce the carbon footprint by decreasing the size of the home, while creating flexibility for a larger living space. NanaWall systems also increase the daylight available to the home, thus reducing the need for artificial lighting.

For the current LEED rating system, check the U.S. Green Building Council (USGBC) website.

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National Green Building Standard (ANSI ICC-700-2008)

How Nanawall Products May Contribute

Overview: The National Green Building Standard™ (ANSI ICC-700) is verified by Accredited Verifiers via the NAHB Research Center. It is the industry standard for residential, multi-family/mixed use and renovation projects. Performance Levels for Points are : Bronze (222), Silver (406), Gold (558) and Emerald (697). Projects must meet a minimum threshold in each of Lot Design, Resource Efficiency, Energy Efficiency, Indoor Environmental Quality & Operation/Maintenance/ Education of Building Owner. The Green Remodel Path awards performance levels for reduction of energy and water by 20%, 34%, 43% and 50% for each of the color designations. Builders/developers seeking certification via the NGBS may apply via www.NAHBGreen. org website and use the "Green Scoring Tool" to see if the home qualifies/apply for verification.

606 Renewable Materials

Intent: Building materials derived from renewable resources 606.2 Wood purchased for NanaWall products available that are certified by ATFS, CSA, FSC, PEFC or SFI.

606.2(2) Major Elements (4 points)

NanaWall Solutions: NanaWall woods from sustainable forestry practices include Meranti, European Pine, and Oak. Wood makes up approximately 20-30% of the weight of the product (depending on size) and up to 20% of the cost. Forestry source is available for verification process.

610.1 Innovative Practices

(Manufacturer's environmental management systems)
Intent: Production facility is ISO 14001 certified or equivalent. Product(s) is 1 percent or more of total building cost. (1 point per %).

NanaWall Solutions: NanaWall / Solarlux both use waterbased (wood) and powdercoated (aluminum) paints, and are completely recycled during the manufacturing process. NanaWall has used woods from sustainable forests for over 15 years. Our innovative packaging is completely recyclable. ISO practices are a way of life for NanaWall. See Section 606 for estimating percent of building cost.

701.4.4.1 Fenestration:

Intent: Meets Energy Star values for U-Factor and SHGC (Mandatory)

Table 701.4.4.1
Maximum Fenestration Specifications
Exterior Doors

Climate Zone	U-Factor	SHGC
All	≤ 0.32	≤ 0.30

NanaWall Solutions: NanaWall Operable Glass Walls qualify for Enhanced windows (10-12 credits). NanaWall Operable Glass Walls are available in various glazing options that have NFRC ratings that exceed the Energy Star door performance levels.

Please refer to specific product performance charts in the binder on the website for latest information.

Nanawall Operable Glass Walls allow natural sunlight to illuminate interiors, saving energy with passive solar, building orientation, and reduced demand on artificial lighting. High performance windows are able to significantly reduce the energy loss through the building envelope. Not only does a high thermal resistance or low U-factor reduce heating loss but the low shading coefficient (SHGC) reduces solar gain and thereby cooling loads. The high visible light transmittance (VT) of glass doors can help reduce lighting loads by allowing more daylight.

NanaWall products can meet Energy Star performance levels, depending on product selected. By using performance simulation modeling it is possible to demonstrate that certain NanaWall Operable Glass Walls are able to alter the simulation model by 8-10%, depending on size and solar orientation.

For coastal areas and extreme weather resistance, choose SL73 with double insulated Impact Low-E Glass on 2 surfaces with argon fill, which has a U-Factor of 0.32 and SHGC of 0.18 but has the additional protection of Impact Resistance for hurricanes. Tested per Florida Building Code and Dade County for Impact for Missile D.

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LEED 2009 For Schools

New Construction & Major Renovations

The purpose of this document is to help professional designers achieve the highest possible energy efficiency in their building projects. NanaWall product systems can meet testing guidelines of the National Fenestration Rating Council. The following will show you how to maximize project LEED credits through the use of our products to help obtain up to 30 points under the United States Green Building Council's (USGBC) Leadership in Energy and Environmental Design (LEED) for New Construction Program or Existing Building Program. LEED is a consensus based standard useful to manage the development of environmentally responsible buildings. For New Construction, points are awarded in Sustainable Sites, Water Efficiency, Energy & Atmosphere, Materials and Resources, Indoor Environmental Quality and Innovation in Design. A LEED NC certified project must obtain a minimum rating of 40 to become certified: certified 40-49, Silver 50-59, Gold 60-79, Platinum 80+ out of 110). Additional information is available through the USGBC @ www.usgbc.org.

All product specifications, thermal and performance testing for specific product applications should be obtained from the nanawall.com or by contacting NanaWall Technical Support info@nanawall.com

SS CR 8: Light Pollution Reduction (1 point)

Credit & Intent:

- Minimize light trespass from the building at night, power to be reduced by 50%, or glazing to be shielded.

- Improve visibility through glare reduction.

NanaWall Solutions:

- Visible light transmission parameters are controlled by glazing and color selection. Interior blinds, glass treatments, and switchable glass options are available.

- It may be possible to obtain SS Cr 8 by incorporating select NanaWall products into the building's envelope.

EA CR 1: Optimize Energy Performance (1-19 points) (Prescriptive 1-3 points)

Credit & Intent:

- Design project to comply with ASHRAE 90.1-2007 Option 1: Whole Building Simulation to reduce process & non-process loads by 12% (1 point) to 48% (19 points) over ASHRAE 90.1-2007. Projects in California may use Title 24, 2005, Part 6.

- Option 2: Prescriptive Path: Small buildings may demonstrate compliance with ASHRAE for K-12 Schools (1 point). Prescriptive compliance path using "Advanced Buildings Core Performance" Guide may claim 1 point, plus 2 additional points for implementing Enhanced Performance strategies listed in Section 3.

NanaWall Solutions:

- NanaWall products allow natural sunlight to illuminate interiors, saving energy with passive solar heat, natural daylighting, and when open, natural ventilation, reducing the demand on HVAC systems and artificial lighting. High performance windows are able to significantly reduce the energy loss through the building envelope. Not only does a high thermal resistance / low U-Factor reduce heating loss, but a low shading coefficient (SHGC) reduces solar gain and cooling loads. A high visible light transmittance (VT) can help reduce lighting loads by contributing more useful daylight.

- NanaWall products can meet Energy Star performance requirements, depending on product selected.

- Potential energy saving strategies include designing the building envelope, HVAC, lighting, and other systems to maximize performance. High performance doors and windows are able to improve the insulative value (which can reduce energy loss) of the building envelope. Low solar heat gain glazings, such as those used in NanaWall, reduce direct and indirect solar gain from the sun, thereby reducing air conditioning loads.

For the current LEED rating system, check the U.S. Green Building Council (USGBC) website.

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LEED 2009 For Schools (Continued)

MR CR 1.1: Building Reuse—Maintain Existing Walls, Floors And Roof (1-2 points)

Credit & Intent:

To extend the life cycle of existing building stock, conserve resources, retain cultural resources, reduce waste and reduce environmental impacts of new buildings as they relate to materials manufacturing and transport.

NanaWall Solutions:

Existing NanaWall exterior wall systems, not demolished in a renovation project, are reused in place

MR CR 1.2: Building Reuse—Maintain Interior Nonstructural Elements (1 point)

Credit & Intent:

To extend the life cycle of existing building stock, conserve resources, retain cultural resources, reduce waste and reduce environmental impacts of new buildings as they relate to materials manufacturing and transport.

NanaWall Solutions:

Existing NanaWall interior wall systems, not demolished in a renovation project, are reused in place.

MR CR 2.1 / 2.2: Construction Waste Management (1 or 2 points)

Credit & Intent:

Divert construction waste/ recycle from landfills, 50% (1 point), 75% (2 points)

NanaWall Solutions:

NanaWall cardboard shipping crates are made of 60% recycled material, and are 100% recyclable.

MR CR 3: Materials Reuse (1–2 points)

Credit & Intent:

To reuse building materials and products to reduce demand for virgin materials and reduce waste, thereby lessening impacts associated with the extraction and processing of virgin resources.

NanaWall Solutions:

NanaWall's components easily disassemble and reassemble to "Use as salvaged... or reused materials."

MR CR 5.1 / 5.2: Regional Materials (1 point for 10% Value; 2 points for 20% Value)

Credit & Intent:

Provide materials that are manufactured and extracted within a 500 mile (805 km) radius or the project.

NanaWall Solutions:

NanaWall manufactures SL45, SL60, SL70, SL73, and NW Aluminum 640 products in Richmond, CA 94801.

LEED 2009 For Schools (Continued)

MR CR 7: Certified Wood (1 point)

Credit & Intent:

- Provide 50% of the wood (based on cost) used on the project are certified in accordance with the USGBC Forest Certification Benchmark. Categories include: Governance, Forest Standard Substance, Chain of Custody & Labeling, and Accreditation & Certification

NanaWall Solutions:

- NanaWall Sapeli Mahogany, Meranti, European Pine, Western Hemlock, and European Oak are available as PEFC certified wood. Depending on the wood selected, potential contributions include: forestry specialty conservation value, reforestation, timber procurement, economic viability, training, and research. NanaWall/ Solarlux holds FSC Chain of Custody Certification (certificate SGS-COC-008117). Both FSC and PEFC certified wood are documented from the certified forest to the end user in a controlled "Chain of Custody" that has been independently verified for adherence to FSC/PEFC standards.

IEQ CR 2: Increased Ventilation (1 point)

Credit & Intent:

- Provide additional outdoor ventilation via mechanical or natural ventilation systems.

NanaWall Solutions:

- NanaWall Operable Glass Walls provide natural ventilation in its open state, assisting in the required natural ventilation to 90% of the occupied spaces per ASHRAE 62.1-2007.

IEQ CR 8.1: Daylight And Views: Daylight (1-3 points)

Credit & Intent:

- Provide for the building occupants a connection between indoor spaces and the outdoors through the introduction of daylight and views in 75%/90% of the regularly occupied spaces.
- Option 1: Simulation
- Option 2: Prescriptive: Provide side and top lighting to achieve 25 footcandles in at least 75% (1 point) and 90% (2 points)

NanaWall Solutions:

- NanaWall Operable Glass Walls provide a view for the entire wall, not just a small-framed window (2% minimum glazing), creating more interior daylight. Strategies to consider include building orientation, increased building perimeter, and visible light transmittance (VT) increase as part of the window to floor area ratio (WFR) and use of high performance glazing. NanaWall systems under 70% of the ceiling height qualify for Top-Lighting Zone under the Prescriptive Method.

IEQ CR 8.2: Daylight And Views: Views (1 point)

Credit & Intent:

- Achieve direct line of sight to the outdoor environment via perimeter vision glazing between 30" and 90" above finish floor for building occupants in 90% of all regularly occupied spaces perimeter vision glazing.

NanaWall Solutions:

- NanaWall systems offer a full wall with exterior views when closed, and the flexibility to completely open for a direct/ interactive connection with the exterior environment.

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LEED 2009 For Schools (Continued)

IEQ CR 9: Enhanced Acoustical Performance, (1 point)

Credit & Intent:

- Design classrooms and other core learning spaces to meet the Reverberation Time (RT) and Impact Insulation Class (IIC) requirements of ANSI Standard S12.60-2002, Acoustical Performance Criteria, Design Requirements, and Guidelines for Schools. Also design classrooms and other core learning spaces to meet the Sound Transmission Class (STC requirements, excepting windows, which must meet an STC rating of at least 35.

NanaWall Solutions:

- NanaWall Operable Glass Wall NW Acoustical 645 and SL70, with specialty laminated insulated glazing can achieve an STC rating of up to 43 and an OITC rating of 32. They are sealed/ weather-resistant suitable for exterior use, but in interior applications can provide flexible classroom space and minimum sound transmission. HSW60 with specialty laminated insulated glazing can achieve an STC of up to 43. WD65 and SL45 with specialty glazing have an STC of 36-38. Designers can achieve the maximum threshold under Option 1: Using the methodology described in Standard S12.60-2002, achieve a maximum unoccupied background noise level in classrooms and other primary learning spaces.

ID CR 1: Innovation (1-4 points)

Credit & Intent:

- Exemplary energy performance, school as teaching tool, or integrations of sustainable features not included above.

- Path 1: Innovation in Design (1-4 pt) Measurable environmental performance.

- Path 2: Exemplary Performance (1-3 pt) Exemplary Performance in existing category for the next higher incremental percentage.

NanaWall Solutions:

- NanaWall products not only exceed thermal performance at levels eligible for exemplary credit, but also provide innovative ways for operable glass walls that can provide increased ventilation, thermal comfort while decreasing the need for grid based power.

- NanaWall Operable Glass Walls placed strategically can achieve daylighting in 95% of occupied spaces and may qualify for Exemplary Performance.

- NanaWall products allow the designer to create a smaller carbon footprint by using smaller square footage. The Operable glass wall allows the design of combination indoor-outdoor spaces, divisions of classroom into multiple spaces, enhanced acoustical performance, ventilation, thermal comfort, and daylighting all in one product

For the current LEED rating system, check the U.S. Green Building Council (USGBC) website.

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LEED 2009 For New Construction & Major Renovations (NCMR)

The purpose of this document is to help professional designers achieve the highest possible energy efficiency in their building projects. NanaWall product systems can meet testing guidelines of the National Fenestration Rating Council. The following will show you how to maximize project LEED credits through the use of our products to help obtain up to 30 points under the United States Green Building Council's (USGBC) Leadership in Energy and Environmental Design (LEED) for New Construction Program or Existing Building Program. LEED is a consensus based standard useful to manage the development of environmentally responsible buildings. For New Construction, points are awarded in Sustainable Sites, Water Efficiency, Energy & Atmosphere, Materials and Resources, Indoor Environmental Quality and Innovation in Design. A LEED NC certified project must obtain a minimum rating of 40 to become certified: certified 40-49, Silver 50-59, Gold 60-79, Platinum 80+ out of 110). Additional information is available through the USGBC @ www.usgbc.org.

All product specifications, Thermal and Performance testing for specific product applications should be obtained from the nanawall.com website or by contacting NanaWall Technical Support info@nanawall.com

SS CR 8: Light Pollution Reduction (1 point)

Credit & Intent:

- Minimize light trespass from the building at night, power to be reduced by 50% or glazing to be shielded.

- Improve visibility through glare reduction.

NanaWall Solutions:

- Visible light transmission (VT) parameters are controlled by glazing and color selection. Interior blinds, glass treatments, and switchable glass options are available.

- It may be possible to obtain SS Cr 8 by incorporating select NanaWall products into the building's envelope.

EA CR 1: Optimize Energy Performance, 1-19 points (Prescriptive 1 + 1-3 points)

Credit & Intent:

- Design project to comply with ASHRAE 90.1-2007 Option 1: Whole Building Simulation to reduce process & non-process loads by 12 (1 point) -48% (19 point) over ASHRAE 90.1-2007. Projects in California may use Title 24, 2005, Part 6.

- Option 2: Prescriptive Path: Small buildings may demonstrate compliance with ASHRAE for Small Buildings 2004, ASHRAE for Small Retail 2006 or ASHRAE for Small Warehouses 2008 for 1 point. Prescriptive compliance path using "Advanced Buildings Core Performance" Guide may claim 1 point, plus 2 additional points for implementing Enhanced Performance strategies listed in Section 3.

NanaWall Solutions:

- NanaWall products allow natural sunlight to illuminate interiors, saving energy with passive solar heat, natural daylighting and when open, natural ventilation reducing demands on HVAC systems and artificial lighting. High performance windows are able to significantly reduce the energy loss through the building envelope. Not only does a high thermal resistance / low U-Factor reduce heating loss, but a low shading coefficient (SHGC) reduces solar gain and thereby cooling loads. A high visible light transmittance (VT) can help reduce lighting loads by contributing more useful daylight.

- NanaWall products meet Energy Star performance requirements, depending on product selected.

- Potential energy saving strategies include designing the building envelope, HVAC, lighting, and other systems to maximize system performance. High performance doors and windows are able to improve the insulative value (which can reduce energy loss) of the building envelope. Low solar heat gain glazings, such as those used in NanaWall, reduce direct and indirect solar gain from the sun, thereby reducing air conditioning loads.

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LEED 2009 For New Construction & Major Renovations (NCMR) (Continued)

MR CR 1.1: Building Reuse—Maintain Existing Walls, Floors and Roof (1-2 points)

Credit & Intent:

To extend the life cycle of existing building stock, conserve resources, retain cultural resources, reduce waste and reduce environmental impacts of new buildings as they relate to materials manufacturing and transport.

NanaWall Solutions:

Existing NanaWall exterior wall systems, not demolished in a renovation project, are reused.

MR CR 1.2: Building Reuse—Maintain Interior Nonstructural Elements (1 point)

Credit & Intent:

To extend the life cycle of existing building stock, conserve resources, retain cultural resources, reduce waste and reduce environmental impacts of new buildings as they relate to materials manufacturing and transport.

NanaWall Solutions:

Existing NanaWall interior wall systems, not demolished in a renovation project, are reused.

MR CR 2.1 / 2.2: Construction Waste Management (1–2 points)

Credit & Intent:

Divert construction waste/ recycle from landfills, 50% (1 point), 75% (2 points)

NanaWall Solutions:

NanaWall cardboard shipping crates are made of 60% recycled material and are 100% recyclable.

MR CR 5.1, 2: Regional Materials (1 point for 10% value, 2 points for 20% value)

Credit & Intent:

Provide materials that are manufactured and extracted with a 500 mile (805 km) radius or the project.

NanaWall Solutions:

NanaWall manufactures SL45, SL60, SL70, SL73, and NW Aluminum 640 products in Richmond, CA 94801.

MR CR 3: Materials Reuse (1–2 points)

Credit & Intent:

To reuse building materials and products to reduce demand for virgin materials and reduce waste, thereby lessening impacts associated with the extraction and processing of virgin resources.

NanaWall Solutions:

NanaWall's components easily disassemble and reassemble to "Use as salvaged… or reused materials."

For the current LEED rating system, check the U.S. Green Building Council (USGBC) website.

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LEED 2009 For New Construction & Major Renovations (NCMR) (Continued)

MR CR 7: Certified Wood (1 point)

Credit & Intent:

- Provide 50% of the wood (based on cost) used on the project are certified in accordance with the USGBC Forest Certification Benchmark. Categories include: Governance, Forest Standard Substance, Chain of Custody & Labeling, and Accreditation & Certification.

NanaWall Solutions:

- Meranti, European Pine, and Oak are available as PEFC certified wood. Depending on the wood selected, potential contributions include: forestry specialty conservation value, reforestation, timber procurement, economic viability, training and research. NanaWall/Solarlux holds FSC Chain of Custody Certification (certificate SGS-COC-008117).

  Both FSC and PEFC certified wood are documented from certified forest to the end user in a controlled "Chain of Custody" that has been independently verified for adherence to FSC/PEFC standards.

IEQ CR 2: Increased Ventilation (1 point)

Credit & Intent:

- Provide additional outdoor ventilation via mechanical or natural ventilation systems.

NanaWall Solutions:

- NanaWall Operable Glass Walls can provide natural ventilation in its open state, assisting in the required natural ventilation to 90% of the occupied spaces per ASHRAE 62.1-2007.

IEQ CR 8.1: Daylight and Views: Daylight (1 point)

Credit & Intent:

- Provide for the building occupants a connection between indoor spaces and the outdoors through the introduction of daylight and views in 75% of the regularly occupied spaces.
- Option 1: Simulation
- Option 1: Prescriptive: Provide glare control devices or top lighting.

NanaWall Solutions:

- NanaWall Operable Glass Walls provide a view for the entire wall, not just a small-framed window, creating more interior daylight. Strategies to consider include building orientation, increased building perimeter, and visible light transmittance (VT) increase as part of the window to floor area ratio (WFR) and use of high performance. NanaWall systems under 70% of the ceiling height qualify for Top-Lighting Zone under the Prescriptive Method.

IEQ CR 8.2: Daylight and Views: Views (1 point)

Credit & Intent:

- Achieve direct line of sight to the outdoor environment via perimeter vision glazing between 30" and 90" above finish floor for building occupants in 90% of all regularly occupied spaces.

NanaWall Solutions:

- NanaWall systems offer a full wall with exterior views when closed, and the flexibility to completely open for a direct/interactive connection with the exterior environment.

ID CR 1: Innovation (1-5 points)

Credit & Intent:

- Exemplary energy performance, school as teaching tool, or integrations of sustainable features not included above.
- Path 1: Innovation in Design (1-5 points) Measurable environmental performance.
- Path 2: Exemplary Performance (1-3 points) Exemplary Performance in existing category for the next higher incremental percentage.

NanaWall Solutions:

- NanaWall products not only exceed thermal performance at levels eligible for exemplary credit, but also provide innovative ways for operable glass walls that can provide increased ventilation, thermal comfort while decreasing the need for grid based power.
- NanaWall Operable Glass Walls placed strategically can achieve daylighting in 80% of occupied spaces and may qualify for Exemplary Performance.
- NanaWall products allow the designer to create a smaller carbon footprint by using smaller square footage. The Operable glass wall allows the design of combination indoor-outdoor spaces divisions of classrooms into multiple spaces, enhanced acoustical performance, ventilation, thermal comfort, and daylighting all in one product.

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LEED v4 and LEED v4.1
For Building Design and Construction (BD&C)

BD&C - EA CR 2 : Optimize Energy Performance (1–20 points)

Credit & Intent:

- To achieve increasing levels of energy performance beyond the prerequisite standard to reduce environmental and economic harms associated with excessive energy use.

NanaWall Solutions:

- NanaWall systems using low U-factor designed double or triple IGU and thermally broken frames can provide significant energy performance.

BD&C - MR CR 1 : Building Life-Cycle Impact Reduction

OPTION 3. Building And Material Reuse (1–4 points BD&C, 1-5 Points Core And Shell)

Credit & Intent:

- To encourage adaptive reuse and optimize the environmental performance of products and materials.
- Option 3: Reuse or salvage building materials from off site or on site as a percentage of the surface area.

NanaWall Solutions:

- NanaWall systems can be easily disassembled for salvage and reuse.

BD&C - EQ CR 7 : Daylight (1–3 points)

Credit & Intent:

- To connect building occupants with the outdoors, reinforce circadian rhythms, and reduce the use of electrical lighting by introducing daylight into the space.

NanaWall Solutions:

- NanaWall glass wall assembly borrowed light brings daylight deeper into the floor plate.

BD&C - EQ CR 8 : Quality Views (1–2 points)

Credit & Intent:

- To give building occupants a connection to the natural outdoor environment by providing quality views.

NanaWall Solutions:

- NanaWall glass wall assemblies provide direct outdoor lines of sight.

BD&C - EQ CR 9 : Acoustic Performance (1–2 points)

Credit & Intent:

- To provide workspaces and classrooms that promote occupants' well being, productivity, and communications through effective acoustic design.

NanaWall Solutions:

- NanaWall Operable Glass Wall NW Acoustical 645 and SL70, with specialty laminated insulated glazing can achieve an STC rating of up to 43 and an OITC rating of 32. They are sealed/ weather-resistant suitable for exterior use, but in interior applications can provide flexible classroom space and minimum sound transmission. HSW60 with specialty laminated insulated glazing can achieve an STC of up to 43. WD65 and SL45 with specialty glazing have an STC of 36-38. Designers can achieve the maximum threshold under Option 1: Using the methodology described in Standard S12.60-2002, achieve a maximum unoccupied background noise level in classrooms and other primary learning spaces.

NanaWall®
Boundaries **Unbound**®

LEED v4 and LEED v4.1
For Interior Design and Construction (ID&C)

ID&C EA CR 2: Optimize Energy Performance - Option 2. Prescriptive Compliance (1–16 points)

Credit & Intent:

- To achieve increasing levels of energy performance beyond the prerequisite standard to reduce environmental and economic harms associated with excessive energy use.

- Option 2 - Building Envelope, Glazing (2 points) : Comply with the recommendations in the appropriate ASHRAE 50% Advanced Energy Design Guide for all vertical fenestration.

NanaWall Solutions:

- Option 2 : NanaWall systems using low U-factor designed double or triple IGU glazing and thermally broken frames can provide significant energy performance that meet the Thermal Transmittance of U-0.65 and SHGC of 0.25 ASHRAE AEDG requirements.

ID&C - MR CR 1 : Interiors Life-Cycle Impact Reduction
OPTION 1. Interiors Reuse (2 points)
and/or
OPTION 3. Design for Flexibility (1 point ID&C, 2 points Retail CI)

Credit & Intent:

- To encourage adaptive reuse and optimize the environmental performance of products and materials.

- Option 2 : Reuse or salvage interior nonstructural elements for at least 50% of the surface area.

- Option 3: Design at least 50% of interior nonstructural walls, ceilings, and floors to be movable or demountable.

NanaWall Solutions:

- Option 2 : NanaWall systems can be easily disassembled for salvage and reuse.

- Option 3 : NanaWall provides moveable wall systems and systems that are demountable.

ID&C - EQ CR 7 : Daylight (1–3 points)

Credit & Intent:

- To connect building occupants with the outdoors, reinforce circadian rhythms, and reduce the use of electrical lighting by introducing daylight into the space.

NanaWall Solutions:

- NanaWall glass wall assembly borrowed light brings daylight deeper into the floor plate.

ID&C - EQ CR 8 : Quality Views (1–2 points)

Credit & Intent:

- To give building occupants a connection to the natural outdoor environment by providing quality views.

NanaWall Solutions:

- NanaWall glass wall assemblies provide direct outdoor lines of sight when used as borrowed lites.

ID&C - EQ CR 9 : Acoustic Performance (1–2 points)

Credit & Intent:

- To provide workspaces and classrooms that promote occupants' well being, productivity, and communications through effective acoustic design.

NanaWall Solutions:

- NanaWall Operable Glass Wall NW Acoustical 645 and SL70, with specialty laminated insulated glazing can achieve an STC rating of up to 43 and an OITC rating of 32. They are sealed/ weather-resistant suitable for exterior use, but in interior applications can provide flexible classroom space and minimum sound transmission. HSW60 with specialty laminated insulated glazing can achieve an STC of up to 43. WD65 and SL45 with specialty glazing have an STC of 36-38. Designers can achieve the maximum threshold under Option 1: Using the methodology described in Standard S12.60-2002, achieve a maximum unoccupied background noise level in classrooms and other primary learning spaces.

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